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Institute for Public Policy and Business Research, The University of Kansas

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Gina Sanborn
with David Burress, Pat Oslund, and Anthony Redwood

A service economy is not necessarily a low-wage economy that depends on imports. Export-oriented services, like business services and headquarters firms found in Johnson County and in Overland Park in particular, draw wealth from outside the state, create high-paying jobs for highly skilled workers, and have a significant impact on the county and state economies.

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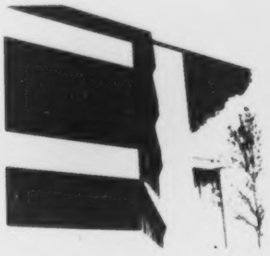
The Importance of the Service Sector: The Case of Johnson County



Gina Sanborn
with David Burress, Pat Oslund, and Anthony Redwood

Gina Sanborn was a research associate at the Institute for Public Policy and Business Research at the time of the study. She is now a doctoral student in the Krannert School of Management at Purdue. Institute co-researchers on this study were David Burress, assistant professor of economics; Pat Oslund, research associate; and Anthony Redwood, professor of business.

A service economy is not necessarily a low-wage economy that depends on imports. Export-oriented services, like business services and headquarters firms found in Johnson County and Overland Park in particular, draw wealth from outside the state, create high-paying jobs, and have a significant impact on the county and state economies.

Introduction

The economic significance of service firms is often misunderstood and underestimated. Services are thought of as secondary industries, which exist only to support primary industries like manufacturing. Primary industries create wealth by producing a product and exporting it. In contrast, secondary industries merely take wealth imported by primary industries and recirculate it within the area. According to this theory, an area's economic fate depends on its ability to develop and retain primary industries. In Kansas the manufacturing, agriculture, and oil and gas sectors are all recognized as primary industries, while service and administrative firms are not.

Primary industries like manufacturing are also thought to be more valuable to an economy because they pay higher wages than secondary industries. The shift in the U.S. economy from manufacturing to services is feared by people who believe low-wage service jobs are replacing manufacturing.

However, certain service businesses can function as primary industries. These services export their "product" outside the community or state and import wealth just as manufacturers do. A 1978 study of business services in New England shows that some service subsectors have substantial export earnings. The following types of service providers were surveyed for the study: advertising agencies; research and development laboratories; management, consulting, and public relations services; equipment rental and leasing services; engineering and architectural services; and accounting, auditing and bookkeeping services. Twenty-one percent of respondents sold over half their U.S. output outside of New England.[1]

The service sector encompasses a disparate group of enterprises, from low-wage, localized janitorial services to high-paying consulting services with regional, national, and international accounts. Services make up a significant and growing portion of national, state, and local economies.

In its broadest context, the service sector is *all nongoods-producing industries.*[2] This definition includes transportation; communications and utilities; finance, insurance and real estate; wholesale and retail trade; government; agricultural services; personal, business, professional, educational, social and other services; and (sometimes) construction.

Using a more restricted definition that excludes government and construction, service industry employment was 68.1 percent of U.S. employment and 67.3 percent of Kansas employment in 1985. Since 1975, the proportion of service employment has increased 6 percent in the nation and nearly 4 per cent in Kansas.[3]

Services firms have also increased their contribution to the Gross National Product (GNP) of the United States significantly. Between 1950 and 1980, total private sector services grew from 8 percent to 70 percent of GNP.[4] On average the service sector contributed 58 percent of Gross Domestic Product in 1980.[5]

This study analyzes the significance and function of the service industries in a particular economy--that of Johnson County, Kansas. Service and administrative firms make up about three-quarters of employment in Johnson County, one of the fastest growing, wealthiest, and most populated counties in the state. This service sector development is particularly concentrated in the city of Overland Park.

Methodology

This study includes many different approaches: a review of scholarly literature, shift-share analysis, simple location quotients, input-output modeling, projections using survey data, direct sampling, and hypothetical firm profiles.

Available data were used to describe the Johnson County economy. Subsequent analysis focused on headquarters and business services that tend to have regional and national markets.

Table 1
Employment Growth, 1980-1985

Industry	Johnson County	Kansas	U.S.
Agricultural services, forestry, fisheries	78%	42%	31%
Transportation and other public utilities	19	1	4
Wholesale trade	30	0	8
Retail trade	21	7	12
Finance, insurance and real estate	37	10	13
Services	64	17	25
Business services	114	57	43
Total employment growth	28%	3%	8%

Source: U.S. Department of Commerce, Bureau of the Census, *County Business Patterns*.

Location quotient analysis showed which sectors make up the area's economic base. Shift-share analysis showed influences on the area's employment growth.

Three aspects of the significance of administrative and service sectors were considered in this study:

1) the economic impact of the sectors;
2) their employment impact; and
3) the amount of tax revenue generated by them.

A questionnaire survey provided detailed employment and financial data for export-oriented headquarters and services firms located in Johnson County. An input-output model of the county economy was developed to find the economic impacts these firms have on the county and state.

Estimates of jobs related to service exports and headquarters firms in Johnson County were based on location quotients. Data from another Institute study were used to estimate exports to other cities and states.[6]

This study also evaluates the impact of state and local tax laws on these sectors. Do Kansas tax laws make Missouri a more favorable location for Kansas City area service and administrative firms that export?

To answer this question, tax bills were calculated twice for three hypothetical firms. One calculation assumed their sites were in Johnson County, Kansas, and the other assumed they were in Jackson County, Missouri.

Results

Rapid Employment Growth

As Table 1 shows, employment grew much faster in Johnson County than in Kansas or the nation between 1980 and 1985. Employment in the service sector was especially strong. Services employment (narrowly defined) grew 64 percent in Johnson County, compared with 17 percent in Kansas and 25 percent in the United States. Business services, a component of the service sector, grew 114 percent in Johnson County, 57 percent in Kansas, and 43 percent in the United States between 1980 and 1985.

Other nongoods-producing businesses also grew more rapidly locally than in the state or nation: agricultural services, transportation, communications, wholesale trade, retail trade, and finance, insurance, and real estate.

Reasons for Growth

Shift-share analysis distinguishes the effects of national trends, industry trends, and local trends in employment growth. The product of the rate of employment growth in the nation from 1980 to 1985 and local employment in 1980 gives the national growth effect. This amount of employment growth results when the local economy keeps up with the nation. The industry mix effect is the product of the national growth rates for each individual sector and 1980 employment for each local sector. Employment growth that cannot be explained by growth in the national economy or by the industrial mix in the local economy represents the dynamics of the local economy.

Table 2
Sources of Growth for Johnson County, 1980-1985

Industry	County Growth	Employment Growth Resulting From National Trends	Industry Trends	Local Trends
Agricultural services, forestry, fisheries	363	39	108	216
Mining	382	4	-7	385
Contract construction	-271	664	-652	-283
Manufacturing	1,111	1,832	-3,618	2,898
Transportation & public utilities	1,099	477	-241	862
Wholesale trade	3,053	844	-45	2,254
Retail trade	5,244	2,050	882	2,312
FIRE	4,151	949	568	2,635
Services	12,421	1,622	3,283	7,516
Nonclassifiable	692	52	481	159
Total	28,244	8,533	758	18,953

Source: U.S. Department of Commerce, Bureau of the Census, *County Business Patterns*.

The three effects--national growth, industry mix, and local growth--add up to the total net change in employment in the local economy for the period.

Table 2 shows the shift-share analysis for Johnson County and the United States between 1980 and 1985. The results illustrate the unusual strength of the local economy.

Primary Industries

Location quotients were used to find which sectors are primary industries in Johnson County. The primary industries are the backbone of an economy. They bring new wealth in from outside the area and create jobs, both in their own industry and also in secondary industries in the community. Usually if there is a larger proportion of employment in a sector than there is in the national economy, that sector is producing more goods or services than are needed for the local market. These are the export-oriented subsectors or primary industries of the area.

Location quotients were calculated by dividing a local subsector's share of total local employment by the national subsector's share of total national employment. If the ratio is greater than one, the subsector makes up a larger share of the local economy than it does of the national economy. That subsector is assumed to be a primary industry.

Table 3 shows subsectors with location quotients greater than 1.1, signifying that their share of local employment is at least 10 percent greater than their share of national employment. The list includes several retail trade subsectors, which is unusual for Kansas and for the United States. In most communities, retail trade subsectors are secondary industries. They support primary industries in other sectors. Apparently people come from Missouri and from beyond the community to shop. Thus some subsectors of retail trade bring new wealth to the community and are part of Johnson County's economic base.

Location quotients for insurance carriers, insurance agents, brokers and services, and holding and other investment offices are more than twice as large for the local economy as for the national economy. Exports for these businesses must be substantial.

This method has its limits. Although disproportionately high employment in a specific sector usually means that the sector's products are consumed outside the community, other factors may increase or decrease location quotients. For example, rapid growth might cause the location quotient for some sectors (real estate for example) to increase without increasing exports. On the other hand, some sectors (like manufacturing) that are traditionally heavy

Table 3
Johnson County Export Industries, 1985[1]

Industry	Percent of Total Employment Johnson County	 United States	Location Quotient[2]
Agricultural services, forestry, fisheries	0.64%	0.47%	1.36
Nonmetallic minerals, except fuels	0.15	0.12	1.20
Printing and publishing	3.38	1.75	1.94
Chemicals and allied products	1.70	1.06	1.60
Electric and electronic equipment	3.40	2.57	1.32
Transportation services	0.41	0.34	1.20
Communication	2.16	1.58	1.37
Administratve and auxiliary	0.46	0.24	1.91
Wholesale trade	10.09	6.93	1.46
Wholesale trade--durable goods	6.64	3.90	1.70
Administrative and auxiliary	0.66	0.36	1.83
Retail trade	22.84	20.77	1.10
General merchandise stores	3.19	2.39	1.33
Apparel and accessory stores	1.79	1.27	1.41
Furniture and home furnishings stores	1.23	0.78	1.59
Miscellaneous retail	3.94	2.63	1.50
Finance, insurance and real estate	11.90	7.40	1.61
Credit agencies other than banks	1.27	0.92	1.38
Insurance carriers	4.39	1.54	2.84
Insurance agents, brokers & service	1.52	0.68	2.23
Real estate	2.43	1.41	1.72
Holding & other investment offices	0.51	0.24	2.14
Personal services	1.74	1.32	1.32
Business services	6.65	5.27	1.26
Miscellaneous services	1.88	1.58	1.19
Administrative and auxiliary	0.25	0.30	1.16

[1] Here exports refer to exports outside the county.
[2] The location quotient equals the proportion of county employment in a sector divided by the proportion of U.S. employment in the same sector.

Source: U.S. Department of Commerce, Bureau of the Census, *County Business Patterns*.

Table 4
Salary for Business Services Employees

		Johnson County		U.S.
SIC	Industry	Average 1985	Growth 1975-1985	Average Growth 1975-1985
73	Business services	$18,098	102.5%	102.9%
731	Advertising	27,106	180.2	110.9
733	Mailing, reproduction, stenographic services	18,172	141.6	92.3
737	Computer and data processing	27,021	128.8	117.6
7392	Management consulting and public relations	25,515	83.1	84.4
891	Engineering, architectural and surveying	20,220	161.3	106.9
893	Accounting, auditing, and bookkeeping	32,278	135.4	83.8

Source: Bureau of the Census, *County Business Patterns*.

overseas exporters may export, but their location quotient will not be greater than one unless they export more than average for the nation. In addition, differences in the average number of hours worked per employee can cause disparities. If Johnson County workers put in more overtime, or if there are fewer part-time workers in Johnson County than the national average, then location quotients may underestimate exports.

Service Industry Wages

Published data were also used to compare the value of service jobs with jobs in manufacturing and other traditional primary industries. Industry payroll data partially refute the notion that service jobs are low paying. Table 4 presents payroll data for business services subsectors.

In Johnson County, payroll per employee for many business services has exceeded payroll per employee in manufacturing. Payroll per employee in manufacturing was $21,091 in 1985. It was higher in several service subsectors: $25,515 in management consulting and public relations, $27,021 in computer and data processing, $27,106 in advertising, and $32,278 in accounting, auditing, and bookkeeping services.

Impacts of Service Firms

Spending Patterns

Many questions about the significance of service industries in Johnson County could not be answered with published data, so local export-oriented service and headquarters firms were surveyed for this study. Twenty firms responded to the survey questionnaire, representing a 28 percent return rate. The survey covered information on 4,373 employees. Industries included were retailing, wholesaling, advertising, finance, insurance, telecommunications, transportation, accounting, engineering, and manufacturing.

Results were broken down for two categories: 1) smaller regional service firms with an average of 66 employees and 2) larger headquarters or division offices with an average of 418 employees. As Tables 5 and 6 show, smaller regional service firms and larger headquarters and division establishments use different inputs. The larger firms spend more per 100 workers than the smaller firms. Note, however, that although larger firms have a greater impact per 100 workers, smaller firms are also very significant because of their greater number: there are more of them in the local, Kansas, and national economies.

On average, for each 100 employees, larger headquarters or division establishments spend more on payroll and have more capital assets. They use more office space than do smaller regional service firms. Smaller firms do spend more within the county and state (per 100 workers) than larger firms on rent, interest, business services, utilities, and office supplies. The smaller firms also spend more in the county on telephone, private mail services, and shipping services, and smaller firms use local businesses more than larger firms do. Even though larger firms actually spend more in these categories, many large division headquarters buy insurance, office supplies, legal, accounting, and other business service assistance through a national headquarters located in another state.

On average, for every hundred employees, large headquarters and smaller regional service firms spend nearly $740 thousand in Kansas, with $615 thousand of that in Johnson County. In addition, average annual payroll per 100 employees is $2.2 million, with $1.9 million paid to employees who live in Johnson County.

Employment

Estimates of total economic impact or total tax revenue impact of regional service and headquarters establishments located in Johnson County must include an estimate for the number of workers in these firms. According to the Kansas Department of Human Resources, total employment in Johnson County was 190,299 in April 1988. Census Bureau data from recent years indicate that about 75 percent are service workers. Thus, about 142,725 Johnson County workers are in transportation, communications, utilities, wholesale trade, retail trade, finance, insurance, real estate, and other services.

Data from a previous survey of businesses in mid-sized Kansas com-

Table 5
Average Annual Expenditures of Surveyed Firms, 1988 (per 100 workers)

	Regional Service Firms		Large Service Firms	
	In Johnson County	In Kansas	In Johnson County	In Kansas
Office machinery and equipment	$ 17,555	$ 17,555	$126,155	$132,373
Office furniture	9,333	9,333	86,400	86,400
Industrial machinery & equip.	0	0	0	0
Automobiles	0	0	1,372	21,996
Other personal property	0	0	67,750	101,624
New construction	4,348	4,348	543,733	565,799
Rent payments	216,368	218,554	175,222	175,222
Interest payments	14,257	14,257	0	0
Business services	72,674	135,592	64,698	107,848
U.S. Mail	37,161	37,561	48,788	48,788
Other mail and phone	41,274	51,879	24,611	85,636
Air travel	8,348	8,348	53,070	53,070
Restaurant	7,939	7,939	9,723	9,723
Insurance	18,891	21,374	95,878	96,886
Utilities (except phone)	13,336	15,151	10,758	14,355
Office supplies	36,188	64,828	20,416	24,430
Motor fuel	5,737	7,783	332	9,648

Source: Survey of Export-Oriented Service and Headquarters Firms in Johnson County, Kansas, Institute for Public Policy and Business Research, 1988.

Table 6
Average Capital Assets of Surveyed Johnson County Firms, 1988 (per 100 employees)

	Regional Service	Large Headquarters	Total*
Land	$81,266	$288,688	$109,441
Building	122,989	1,358,178	290,975
Office machinery	298,973	448,359	319,289
Office furniture	234,932	486,856	269,194
Commercial and industrial machinery and equipment	1,027	16,463	3,126
Automobiles	2,174	14,764	3,886
Total	741,361	2,613,308	995,911

*Weighting is based on U.S. Bureau of the Census, *County Business Patterns, 1985*, which shows that in Johnson County, 86.4 percent of firms were small.

Source: Survey of Export-Oriented Service and Headquarters Firms in Johnson County, Kansas, Institute for Public Policy and Business Research, 1988.

munities[7] and location quotients[8] were used to determine what percent of Johnson County employment is in firms that export. The number of jobs that relate directly to production of services for export was also estimated. The estimate includes a portion of workers in the "administrative and auxiliary" sector to account for employment in headquarters firms. The Standard Industrial Classification, "administrative and auxiliary," describes firms that provide administration, supervision, accounting, purchasing, engineering, systems planning, advertising, legal, financial, research, or warehousing services for other parts of their companies.

Of the 142,725 service workers, almost two-thirds work in headquarters establishments or in service firms that export outside the local or state market. These 92 thousand workers represented 48 percent of all employment in the county as of April 1988. Of these 92 thousand jobs, approximately 65 thousand, or 34 percent of total county employment, can be directly attributed to the export of services outside the local market. Approximately 35 thousand of these are directly related to the export of services outside the state market. About 18 percent of total Johnson County employment relates directly to export of services outside Kansas.

According to the firms surveyed for this study, 28 percent of the employees of export-oriented firms surveyed live in Overland Park, 75 percent in Johnson County, and 85 percent in Kansas. About 15 percent live in Missouri.

Economic Impacts Per 100 Workers

The input/output model of the Institute for Public Policy and Business Research was used to estimate the total economic impact of export-oriented service and headquarters businesses located in Johnson County. In practice, input-output models at the local level are usually developed by adapting survey data from national sources. The model for this study uses values from the B.E.A.'s national input-output model, adjusted to reflect differences between the structure of the U.S. economy and the Johnson County economy. Specifically, location quotients were used to compare the relative importance of a sector in Johnson County to the relative importance of the same sector nationally.

Based on survey data and the input-output model, initial expenditures and discretionary income spent in the county due to 100 export-oriented service workers are estimated to be more than $1.6 million. These initial expenditures caused further economic activity, estimated to be $1.4 million. The total impact in Johnson County per 100 export-oriented workers slightly exceeds $3 million. The additional payroll from the indirect expenditures is $638 thousand, resulting in nearly $2.3 million in earnings for Johnson County workers. About 36 additional jobs result from the economic activity of the initial 100.

Impact on the state is larger. Average initial expenditures for each 100 employees of an export-oriented Johnson County service firm are $1.9 million in Kansas. Initial expenditures filter through the state economy and result in a $3.9 million total increase in final demand and 45 more jobs in the state.

Total Economic Impacts

Employment estimates and economic impact estimates per 100 employees produce total impacts in terms of jobs and money. Figure 1 shows the employment impacts of Johnson County service firms that export and impacts of activity that relates directly to exports. Activity of firms that export services generates about 133.5 thousand jobs in Kansas. Of these, 125 thousand are in Johnson County. Estimates for employment relating directly to exports vary depending on whether exports are defined as services sold outside the county or outside the state. Activity due to service exports outside Johnson County generated 94.3 thousand jobs in Kansas. Service exports outside the state generated 50.8 thousand. Most of these jobs are in Johnson County.

Total sales and earnings impacts on the state and county owing to the export-oriented service sector in Johnson County are substantial. Service firms that export have a $3.5-billion impact on the state. Eighty percent of that impact is in Johnson County. In addition, employee salaries from these firms generate about $2.2 billion in economic activity in Kansas. About 70 percent of the impact benefits Johnson County.

Impacts on Kansas that can be directly attributed to exports from Johnson County amount to $2.5 billion. Again, about 80 percent of the impact is on the county. Slightly more than half of these impacts relate to exports with destinations beyond the state borders.

The impacts of earnings paid to employees whose jobs relate directly to exports of services are calculated separately. For exports outside the local market, the impact on Kansas amounts to $1.5 billion. Again, slightly more than half of this impact of employee salaries relates to exports beyond the state. Both for salaries relating to exports beyond Johnson County and to exports beyond the state, about 90 percent of the impacts are on Johnson County.

Table 7
Effective Tax Rates

	Kansas		
	Before Reassessment	After Reassessment	Missouri
Commercial real estate	0.7%	1.8%	1.7%
Business personal property	4.4	1.2	1.7
Public utility property	4.4	1.8	1.7

Source: Gina Sanborn, David Burress, and Patricia Oslund, *The Nature and Significance of the Overland Park/Johnson County Economy*, Monograph Series no. 155 (IPPBR, July 1988).

Tax Revenue Impact

Tax revenues resulting from service exports can be approximated based on the proportion of employment in these businesses. The total tax impact is made up of several taxes. Significant revenues are generated by corporate income tax, sales/compensating use tax, personal income tax, and sales tax. Revenues from these taxes vary from year to year depending on business conditions. The impact of other taxes is relatively small and is not considered here.

For this analysis, the percent of total tax revenues from a sector is assumed to equal that sector's percent of total employment. This method does not account for two facts that would tend to increase impacts:

1) Payroll in export-oriented service industries is higher than the Kansas average; and

2) Personal income is taxed at a higher rate as it increases.

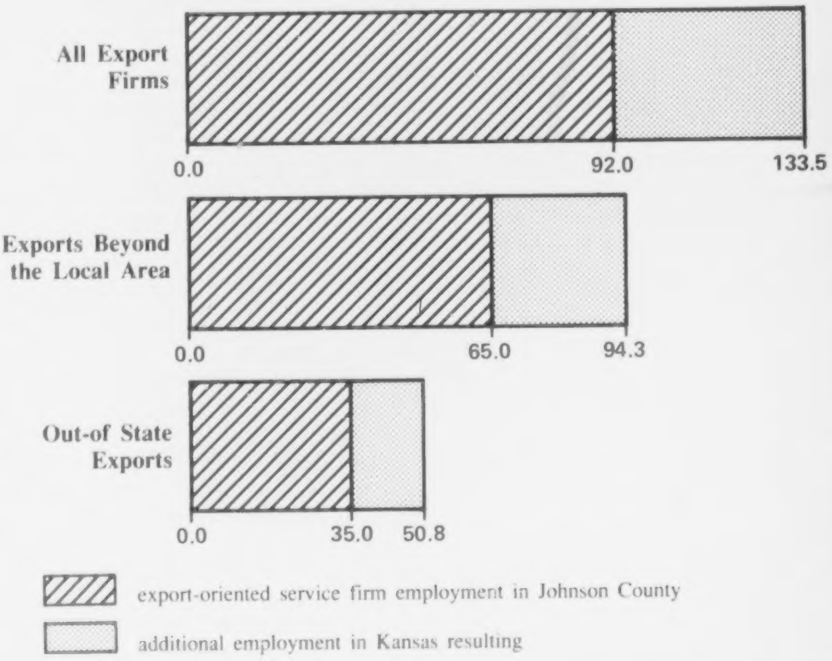
Estimated Kansas employment due to Johnson County service firms that export is 133.5 thousand. This was approximately 11 percent of total employment in Kansas as of April 1988. Eleven percent of total Kansas income tax collected is about $106.6 million, and 11 percent of sales tax collected is about $76.3 million, totaling $182.9 million.

If we consider only impacts of jobs directly tied to service exports (as opposed to all jobs in service firms that export), personal income and sales taxes would be approximately $129.2 million. Exports beyond the state would account for $69.6 million.

Business Taxes in Kansas and Missouri

This section shows the difference in tax burdens for firms located in Johnson County, Kansas, or Jackson County, Missouri. This is a difficult comparison to make because a firm's tax burden comprises several taxes, and because tax bases vary. The hypothetical firm provides a structure for comparison. Profiles for three hypothetical firms have been created using state and national data and data from the survey for this study.

Figure 1
Total Employment Impact of Johnson County Export-Oriented Service Firms, 1988 (in thousands)



The Hypothetical Firm

Types of firms that are more likely to be influenced by relative tax burdens were chosen for this analysis. Representatives of all three selected types are currently located in the area, and each could move across the state line with relative ease. Profiles were constructed for an average firm of each of the following classifications:
1) telecommunications (SIC 481);
2) data processing (SIC 737); and
3) administrative office of nonelectrical machinery manufacturing (SIC 35).

According to the Midwest Research Institute's 1986 *Kansas Economic Development Study Target Industry Analysis*, all three of these industries are good target industries for Kansas. They each have growth potential and characteristics that make them well suited for location in the state. The report specifically identified the nonelectrical machinery classification as a target industry for Kansas's urban areas.

Tax burdens have been calculated twice, once assuming each firm was located in Johnson County, and again assuming it was located in Jackson County. The focus of this project is on taxes, so the hypothetical firm is assumed to have the same sales, size, and non-tax costs regardless of where it is located. However, net profit calculations have been adjusted to take into account an important feedback effect between property taxes and property values. A business site in a low property tax area will generally cost more than a similar business site in a high property tax area. If Missouri property taxes are lower than those in Kansas, Kansas property values will be lower than in Missouri. The cost to the firm for the Kansas property will be less and profits will be higher because of this lower cost.

The following assumptions were made in order to isolate the effects of the tax burden:

* The firm's wage bill will be the same regardless of whether its site is in Kansas or Missouri, and
* the firm can draw on the same pool of workers whether it operates in Kansas or Missouri.

Calculating the New Property Tax

To calculate the property tax burden on the hypothetical firms after reassessment, the new mill rate had to be estimated. State data were used to find market values for the different types of property. Applying new assessment ratios to market value yields the new total assessed valuation for Johnson County. Given total assessed valuation, and assuming county revenues will remain constant, mill rates were calculated.

Table 7 shows the effective tax rates, which are the product of the mill rate and the assessment ratio, before and after reassessment. The effective tax rate for Kansas commercial real estate decreases from 4.4 percent to 1.2 percent after reassessment. The rate for public utility property decreases from 4.4 percent to 1.8 percent. On the other hand, the effective tax rate for Kansas business personal property increases from 0.7 percent to 1.8 percent.

The hypothetical data processing firm (SIC 737) is a firm with one location, in either Overland Park or Jackson County. Its total employment is 50 employees. It is an export-oriented service firm, selling a major portion of its product outside the local market. Because of the nature of the data processing industry, labor costs are proportionately large. Therefore, the workers' compensation and

Table 8
Tax Simulation Results for Three Hypothetical Firms (in thousands)

Type of Firm and Location	State Taxes	Total Taxes	Net Profit
Data Processing Firm Headquarters			
Johnson County, Kansas			
before reassessment	$89.9	$332.4	$434.5
after reassessment	80.6	326.5	430.7
Jackson County, Missouri	42.7	293.9	462.2
Telecommunications Firm Regional Headquarters			
Johnson County, Kansas			
before reassessment	2,256.9	46,853.1	42,881.4
after reassessment	1,700.3	46,511.3	42,660.2
Jackson County, Missouri	1,219.4	46,104.7	43,041.9
Nonelectrical Machinery Manufacturing Headquarters (multi-location)			
Johnson County, Kansas			
before reassessment	226.4	7,159.5	4,699.0
after reassessment	194.2	7,140.5	4,685.8
Jackson County, Missouri	155.5	7,110.7	4,722.8

Source: Gina Sanborn, David Burress, and Patricia Oslund, *The Nature and Significance of the Overland Park/Johnson County Economy*, Monograph Series no. 155 (IPPBR, July 1988).

unemployment insurance rates are particularly significant to the firm. These rates vary greatly depending on a firm's history, and different assumed rates could change the outcome of the tax simulation. Rates used in this simulation are those for a new firm.

As Table 8 shows, of the three hypothetical firms analyzed, only the results for the data processing firm were significant to the entire firm. Kansas taxes were 110.8 percent higher before reassessment and 89.0 percent higher after reassessment than the Missouri taxes. The advantage of a Missouri location is reduced, though still significant, when total taxes to the state and federal government are considered. Total taxes for the firm located in Kansas were 13.1 percent higher (11.1 percent higher after reassessment) than those in Missouri. Net profit, after capitalization of property taxes, was 6.0 percent lower (6.8 percent lower after reassessment) in Kansas than in Missouri.

The hypothetical telecommunications firm (SIC 481) is a major location of a multi-location firm providing services to customers in a multistate region. Most jobs at this location are administrative and clerical. The firm employs 3 thousand people, with 314 at this location. Again, Kansas and Missouri taxes were significantly different. The firm would pay 85.1 percent more before reassessment (39.4 percent more after reassessment) if it were located in Kansas rather than in Missouri. Once again the difference is greatly reduced when taxes to other states and the federal government are taken into account. The firm's total tax burden was 1.6 percent higher before reassessment and 0.9 percent higher after reassessment for the Kansas location than for the Missouri location. Net profit, after a capitalization adjustment for property tax, was 0.4 percent lower in Kansas before reassessment and 0.9 percent lower in Kansas after reassessment than in Missouri.

For the hypothetical non-electrical machinery manufacturing firm (SIC 35), only the headquarters or administrative portion of the firm is considered. The headquarters of the firm has 100 employees and total employment for the firm is 2 thousand. This hypothetical firm has at least two sites--the manufacturing portions of the firm are located in a state other than Kansas or Missouri, and the headquarters and administrative portions of the firm are located in either Overland Park or Jackson County. Taxes paid to Kansas before reassessment were 45.6 percent higher and after reassessment were 24.9 percent higher than taxes paid to Missouri.

The difference in all taxes, including taxes paid to Kansas or Missouri, other states, and the federal government, was negligible. Total taxes for the firm located in Kansas were 0.7 percent higher before reassessment and 0.4 percent higher after reassessment than for the firm located in Missouri. Net profit, after a capitalization adjustment for property tax, was 0.5 percent lower in Kansas before reassessment and 0.8 percent lower in Kansas after reassessment than in Missouri.

In summary, state income tax, property tax, unemployment insurance, and workers' compensation insurance were all higher in Kansas than in Missouri. This was true for each of the three firms both before and after reassessment. Significant property tax decreases for all three firms after reassessment brought Kansas taxes more in line with Missouri property taxes, although Kansas taxes still remain somewhat higher. The sales taxes on equipment purchases for all three firms were significantly higher in Missouri than in Kansas. For the two national firms, nonelectrical machinery and telecommunications, tax payments to other states and the federal government were higher in Missouri than in Kansas.

Thus, the tax simulations show

that there is a significant difference in the total taxes paid to either Kansas or Missouri, depending on which state the firms choose. The significance is greatly reduced, however, when total taxes to all states and the federal government are compared. The net difference to the entire firm of locating in either Johnson County, Kansas, or Jackson County, Missouri, is negligible for the two firms that have locations in other states--the nonelectrical machinery and telecommunications firms. The difference is still somewhat significant for the data processing firm, which only has one location in either Johnson County or Jackson County.

Summary

This study indicates that the regional service and headquarters firms located in Johnson County have significant economic impact on the county and state economies. A substantial portion of non-goods producing industries in Johnson County can be considered to be primary industries. Just as a manufacturing firm draws wealth into a state by exporting its product, so too can certain types of service firms. Both manufacturing and certain services create new employment in the state and support growth in other sectors of the economy. Some types of service firms also provide high-paying jobs for highly skilled and educated workers: A service economy is not necessarily a low-wage economy.

Essentially, two types of service industries can be distinguished: export-oriented services, which are primary industries and part of a community's economic base, and supporting services, which are not primary, are not part of the base, and are dependent on the existence of the primary industries in the economy.

Within Johnson County, approximately three-fourths of the work force is made up of service employees. As of April 1988, at least 48 percent of Johnson County jobs are in service firms that export. Eleven percent of the jobs in the state can be attributed, directly or indirectly, to export-oriented service firms located in Johnson County. The 65 thousand Johnson County jobs related to service exports represent 34 percent of total Johnson County employment. When jobs that depend on related economic activity are included, Johnson County service exports outside the local market account for about 88.4 thousand jobs or 46 percent of total county employment.

Thus, the export-oriented service sector of Johnson County is very significant to the county and state. Service industries affect the economic well-being of the county, and to a lesser extent, of the state. Public policy should take account of this significant group of industries.

Acknowledgment

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7. Survey data from the business retention and expansion study covered 498 service firms (including transportation-communication, trade, finance and other services).

8. Location quotients were used to find the difference between the proportion of Johnson County employment in each sector of the service industry and the proportion of workers in corresponding sectors of the national economy. The "surplus workers" in Johnson County are assumed to be producing services for export.

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Kansas Industry In the Global Economy

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This paper focuses on the issues that affect the international competitiveness of Kansas industry. We will first provide some indicators of Kansas's participation in the global economy and analyze the main factors that affect this involvement. Second, we will analyze two dimensions of international competitiveness of Kansas industry, namely the basic elements necessary for competitiveness and then the special difficulties for Kansas industry in accessing and competing in international markets. Some policy issues relating to Kansas's participation are also developed.

Kansas in the Global Economy

The economic environment for Kansas industry is changing in four key ways:

1) the world economy is rapidly internationalizing;

2) the pace of technological change is accelerating;

3) U.S. productivity is lagging while other countries are becoming more competitive; and

4) the structure of our economy is continuously changing.

Internationalization

Between 1970 and 1984, U.S. exports quintupled, while world trade grew sevenfold, out-pacing the U.S. economy. Although only 15 to 20 percent of U.S. industrial production is exported, 70 percent of U.S. production competes with exports. The United States has lost market share in most industries, including the important high-technology sectors.

In Kansas between 1980 and 1984, the proportion of manufactured goods shipped abroad fell from 10.2 to 8.6 percent, declining relative to other states from 41st to 45th. As Table 1 shows, Kansas manufacturers' exports were well below the national average of 11.9 percent. In half of the industries listed, however, Kansas exported a larger proportion than the nation.

Table 2 also shows the relative importance of various manufacturing sectors as Kansas exporters in 1984. Non-electrical machinery, food and kindred products, and transportation equipment accounted for nearly $1.7

Table 1
Percent of Manufactured Goods Exported, 1984

SIC	Industry	Kansas	U.S.	Kansas Less U.S.
	Manufacturing	8.6%	11.9%	-3.3%
20	Food & kindred products	6.9	4.8	2.1
23	Apparel & other textiles	0.9	3.0	-2.1
24	Lumber & wood products	1.1	8.3	-7.2
25	Furniture & fixtures	8.1	2.7	5.4
26	Paper & allied products	11.1	10.6	0.5
27	Printing & publishing	3.1	4.2	-1.1
28	Chemicals & allied products	7.4	16.6	-9.2
29	Petroleum & coal products	6.4	7.8	-1.4
30	Rubber & misc. plastics	13.9	11.7	2.2
32	Stone, clay & glass	10.2	7.2	3.0
33	Primary metal industries	5.7	19.5	-13.8
34	Fabricated metal products	20.0	11.6	8.4
35	Non-electrical machinery	8.2	21.5	-13.3
36	Electronic equipment	25.2	18.2	7.0
37	Transportation equipment	14.3	12.8	1.5
38	Instruments	7.3	15.4	-8.1
39	Miscellaneous manufacturing	11.0	7.4	3.6

*Postive numbers indicate that Kansas exported a higher percentage of shipments than the U.S. industry. Negative numbers indicate that Kansas exported a lower percentage of shipments than the U.S. industry.

Source: Bureau of the Census, *1984 Annual Survey of Manufactures: Origin of Exports of Manufactured Products*, August 1987.

Table 2
Value of Manufactured Exports from Kansas, 1984
(in millions of dollars)

SIC Industry	Value
Total Kansas Manufactured Exports	$2,630.0
20 Food & kindred products	556.7
23 Apparel & other textiles	8.2
24 Lumber & wood products	2.7
25 Furniture & fixtures	9.6
26 Paper & allied products	75.5
27 Printing & publishing	49.3
28 Chemicals & allied products	130.6
29 Petroleum & coal products	266.2
30 Rubber & misc. plastics	141.6
31 Leather & leather products	1.3
32 Stone, clay & glass	38.9
33 Primary metal industries	65.4
34 Fabricated metal products	46.6
35 Non-electrical machinery	601.1
36 Electronic equipment	94.1
37 Transportation equipment	509.3
38 Instruments	24.6
39 Miscellaneous manufacturing	6.5

Source: Bureau of the Census, *1984 Annual Survey of Manufactures: Origin of Exports of Manufactured Products*, August 1987.

billion of Kansas manufactured exports, or 63.5 percent of the Kansas total.

Employment figures reflect the decreases in the proportion of manufactured goods exported. Between 1980 and 1984, Kansas employment related to manufactured exports decreased:

*Total employment related to manufactured exports fell from 46.5 thousand to 38.4 thousand.

*As a percent of total civilian employment, jobs related to manufactured exports fell from 4.1 to 3.3 percent.

But U.S. employment related to exports dropped significantly during the period, and Kansas's national ranking for percent of total employment related to manufactured exports improved from 30th to 28th. On average 4.9 percent of national employment was related to exports compared with 4.3 percent of total employment in Kansas. Figure 1 shows how much of each state's manufacturing employment depended on exports in 1984.

Other sectors besides manufacturing contribute to manufactured exports. Table 3 shows that nonmanufacturing inputs are substantial and growing in importance. In Kansas between 1980 and 1984, nonmanufacturing jobs relating to manufactured exports grew from 102 to 127 percent of manufacturing jobs related to manufactured exports.

As with any data, it is important to review methodology that may bias the figures presented. In this instance, the method of collecting export figures may cause Kansas numbers to be understated. For example, if an aircraft is partly manufactured in Kansas and then transported to another state for final assembly prior to export, Kansas does not receive "credit" for any portion of these export dollars. The total dollar amount of the aircraft exported is apportioned to the state of final assembly. In addition, these export figures relate only to manufactured goods: they do not include exports of services.

One measure of the internationalization of our economy is the level of foreign investment. In 1984, Kansas ranked 33rd in the nation for number of foreign investors and 16th for the number of foreign dollars invested in the state. In that year, four foreign firms invested $234.3 million in Kansas.[1]

In summary, Kansas exports are below the national average and are concentrated in only a few sectors. In addition, Kansas's proportion of total U.S. exports has been declining. While the statistical collection procedures for export data tend to overstate the gap between U.S. and Kansas export participation, these basic conclusions of under-performance, over-concentration, and declining share are nevertheless valid reflections of the Kansas situation.

Several inherent characteristics of the state and its economy contribute to its below-average contribution to U.S. exports--the geographic isolation of the state, the comparative lack of international exposure in both education and daily life, and the structure of the Kansas economy, which is dominated by small businesses and rural-oriented industries.

Technological Change

Technology has traditionally been one of the strongest competitive advantages of the United States in the international arena. But we are losing this advantage. For the United States, the causes of this relative decline include our under-investment in research and development, regulatory constraints (e.g. the lengthy approval process for new pharmaceutical products), a missing or weak link between research and commercialization, under-staffed and under-equipped university research programs, and inadequate attention to manufacturing or process innovation. The private sectors in both Japan and Germany spend more than the United States does on research and development (as a percent of gross national product).

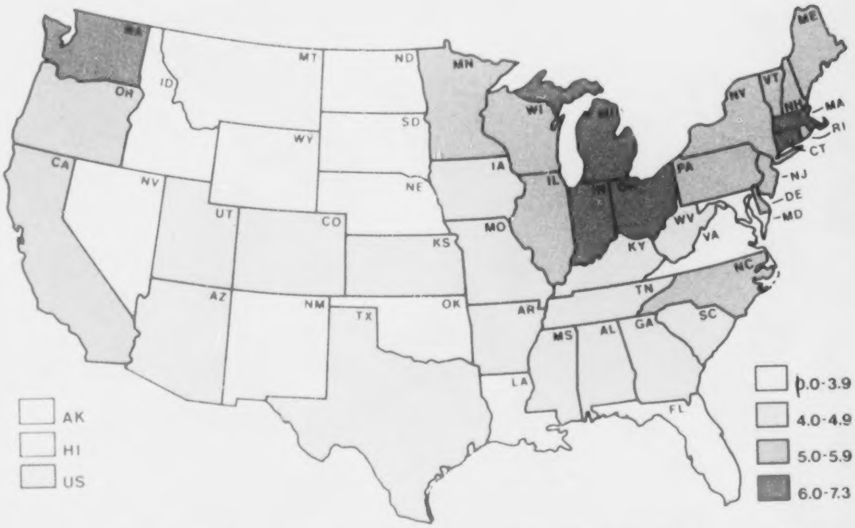
In Kansas the problem is worse. Our low expenditure for research and development is partially explained by the predominance of small business in the state and by inadequate links between the private sector and universities. Technology driven firms are under-represented in Kansas, and we are slow to adopt innovations like modern management techniques, computer-aided design and manufacturing, and statistical quality control.

Productivity Performance

Table 4 shows a comparison of average annual productivity growth in each of six countries for the period 1960-1984. The United States ranks last among six industrialized nations.

However, there is reason to believe that this trend will not continue. The 1986 productivity performance figures for the United States indicate a 3.5 percent growth in productivity, which proved to be the highest in the world. The United States had not ranked first since 1959.[2]

Figure 1
Employment Related to Manufactured Exports (percent of total private sector employment)



Source: Bureau of the Census, *1984 Annual Survey of Manufactures: Origin of Exports of Manufactured Products*, August 1987.

The initial report of the MIT Commission on Industrial Productivity identified five principal causes of the decline in American productivity--causes of which we should be cognizant. These included a short-run focus, parochial attitudes that lead American businesses to pay insufficient attention to foreign competitors, an inability to cooperate, weaknesses in human resource management, and failures in applying technology to make simple, reliable high-quality products.[3] Further, the Hudson Institute observed that lagging productivity within the service sectors has escaped public attention. They note that service businesses do not face the kind of competition from abroad that has helped boost U.S. manufacturing productivity.[4]

Structural Change

The U.S. economic structure continues to change as the number of service industries increases, and manufacturing firms move to small, highly focused operations. What do these changes portend for the United States in general and Kansas in particular?

Table 3
Kansas Employment Related to Manufactured Exports (in thousands)

	1980	1984
Manufacturing	23.0	16.9
Nonmanufacturing	23.5	21.5
Trade	8.2	11.2
Business services	5.4	1.5
Transportation, communication, and utilities	2.8	2.0
Other (including mining and agriculture)	7.1	6.8
Total	46.5	38.4

Source: Bureau of the Census, *Annual Survey of Manufactures: Origin of Exports of Manufactured Products*.

Table 4
Productivity Growth
1960-1984

Country	Annual Change
United States	1.2%
United Kingdom	2.3
Germany	3.4
France	3.7
Korea	5.3
Japan	5.9

Note: Real hourly compensation in the United States has been stagnant since 1973 and has actually declined since 1979.

A review of trends in both personal income and employment by industry sector provide a picture of how the economy changed between 1960 and 1980. First, the role of agriculture in both the United States and Kansas decreased during these two decades. In Kansas, agriculture provided 9 percent of personal income in 1960, but only 3 percent in 1980. Nationally, it fell from 4 percent to 2 percent over the same period. In terms of employment, agriculture dropped from 15 to 6 percent of the total in Kansas and from 8 percent to 3 percent in the nation between 1960 and 1980.

The role of manufacturing diminished in the United States, where employment dropped from 25 percent to 19 percent of the U.S. total. In 1960, 26 percent of all U.S. personal income was from manufacturing, but by 1980 it had dropped to 20 percent. In Kansas the importance of manufacturing remained relatively constant, accounting for about 15 to 16 percent of personal income and 14 to 17 percent of jobs.

Both for the nation and for Kansas, the service sector increased its share of employment more than any other sector between 1960 and 1980. Service sector employment grew from 11 percent to 19 percent of total U.S. employment and from 8 percent to 15 percent of Kansas employment during the twenty-year period.

This shift to a service-based economy will change the way we work, according to a Hudson Institute study.

> Service jobs tend to be located where and when the customer wants them, rather than centralized as in manufacturing. This will mean fewer people at each place of work. In addition, wages will become less equally distributed, since service jobs tend to have more high and low earners and fewer in the middle.[5]

David Birch notes that while we have maintained our manufacturing work force in absolute numbers, we have changed the mix of what we make.

> We have, in essence, gone to our strength: innovation--such as instrumentation and fabricated metal products--and have relinquished to others the production of items that have not changed a great deal in the past 20 years.[6]

Within this context, two trends warrant concern. First, sectors that are growing rapidly in the nation are under-represented in the Kansas economy.[7] Second, nonmetropolitan Kansas is not gaining its share of the fast growing business services sector.[8]

International Competitiveness

As we have shown, rapid internationalization, technological change, lagging productivity, and changes in the structure of the economy are features of the economic environment challenging Kansas business. The proportion of the Kansas economy devoted to exports is below average, and export activity is concentrated in a few sectors. Expenditure for research and development is minimal, owing to the prevalence of small business in Kansas and weak links between universities and industry. Productivity is traditionally lower, and service businesses are becoming more important at the expense of agriculture and manufacturing.

Given these forces, we can identify two elements of a strategy to enhance competitiveness. First, before we can be competitive in the international marketplace, Kansas industry must be competitive in the domestic market. That is, we must focus first on those basic elements that underpin general competitiveness. Second, Kansas industry must face some unique challenges in accessing and competing in international markets: geographical location, general educational and cultural backgrounds, lack of awareness of the international opportunities, and our particular industrial structure.

We do not deal here with the extremely important and complex dimensions of national policy that affect the general competitiveness of U.S. industry; public policy on exchange rates, taxes, trade, education, and industry have been treated extensively elsewhere.[9]

Furthermore, we observe that public policy should *not* attempt to preserve the status quo for status quo's sake. Rather it should provide an economic environment that facilitates innovation and adaptation to change in a competitive market economy, and it should be neutral with respect to the allocation of resources. In addition, public policy must be consistent with the realization that the prime responsibility for improving competitiveness rests with the private sector. Our economic system rewards firms that innovate, anticipate changes in demand, and restructure resources to meet foreign competition. It penalizes firms that use out-moded production techniques, neglect quality control, allow unit costs of production to remain constant or to increase, shun new markets, and ignore the long-run implications of decisions.

General Competitiveness of Kansas Industry

So how then can Kansas industry become more competitive? In our view, general competitiveness can be attained with the creation and application of new technology, access to capital at competitive rates, access to a skilled and motivated labor force, existence of a supportive business climate with an appropriate underpinning infrastructure, and a focus on customer needs and demands.

Technology

Technology and innovation can create new industries and renew existing ones in Kansas. Our industries' technological prowess can be enhanced with a solid foundation of science and technology that is relevant to commercial use, coupled with a system to help commercialize this technology. The public policy issues relevant to this determinant of competitiveness include appropriate incentives for enhancing research and development; focusing the role of universities in research, training of scientific and engineering personnel and technology transfer; and devising mechanisms for transferring new techniques of production and management to Kansas industry.[10]

Capital

The underlying need here is for the availability of different types of capital, ranging from seed capital for research and development to export financing for foreign sales. The role of the state in developing capital sources, the structure of banking and financial services and tax policies that affect capital commitments (incentives for venture/seed capital funds and the existence of tax "distortions" such as the sales tax on plant and equipment) should be determined.

A recent survey of 858 business firms in nine Kansas communities by the Institute for Public Policy and Business Research at the University of Kansas found that a major barrier to expansion of Kansas firms is lack of financing. Of the firms surveyed, 24 percent stated that a lack of affordable financing is a problem associated with expansion. In addition, the lack of financing is a barrier to the export of goods and services. Of the firms that did not export their products, 20 percent gave lack of affordable financing as a reason. Thirteen percent of the firms that exported stated that a lack of financing was a problem with exporting.[11]

Similarly, Gaumnitz has written that Kansas tends to be one of the least successful states in attracting venture capital, and research has shown that venture capital is the single most often cited reason for high entrepreneurial activity.[12]

He concluded that states with active venture capital markets have a high degree of cooperation among state government, entrepreneurs, and financial institutions.

Human Resources

As firms are required to respond to the new competitive environment, their human resource requirements will continue to change. Today workers must be better educated to understand technology and adapt to change. Global and domestic competitive pressures require innovation and entrepreneurship to ensure survival. Production, which was once repetitive assembly line work, has changed. Now batch jobs and custom order production demand an adaptive, flexible and multi-skilled labor force. Smaller scale production modes also require more flexible team-oriented arrangements and new forms of employer-employee relationships. Finally, demographic shifts are decreasing the number of youthful entrants into the labor market, requiring that more resources be devoted to retraining and recruiting older and nontraditional workers.

State policy makers have more influence over the supply of labor than over labor demand. The state's investment in foundations for economic growth can influence demand for labor, but the state's main influence is on how well supply matches demand. Public policy, therefore, can play a critical role in human resource development through the establishment of training incentives, the availability of a responsive and accessible education system, and the creation of a transition program to move displaced workers from old to new industries. In addition, management and government can work to create a cooperative labor-management environment.

The Institute for Public Policy and Business Research recently addressed these factors as they relate to Kansas's vocational/technical educational system. The study noted that

> the system's education and training focus must be directed to producing the highly skilled labor force that will help the state remain competitive and increase its capacity for economic growth. To do so, the Kansas education system must expose the work force to a strong educational background in general and technical disciplines and must provide industry with an efficient training system to adapt its workers to swift and radical changes in production technologies.[13]

Infrastructure

Infrastructure refers to the very important physical structure supporting economic activity, including roads and highways, airports, waste disposal, and sewerage. It also has, however, another important dimension. This includes the social and cultural infrastructure which underpins the quality of life in a community and region, and the public education and post-secondary systems required for human capital development. The structure of government at every level can profoundly influence the availability and effectiveness of public services and the business environment.

Customer Focus

The rapid rate of change, international competition and the growth of service-based industries demand that business return to a customer orientation. This requires a refocusing on both product quality and service and a longer-term view of the consequences of protectionism versus change.

Peter Drucker provides a pertinent summary of these general competitiveness issues.

> It will not be competition based on wage differentials but on managerial competence--productivity of

> knowledge, work, and money, process technology, management of foreign-exchange risks, quality, design, innovation, service and marketing. Increasingly, concentration rather than conglomeration or diversification will be needed, with growing emphasis on knowing one's technology, market, and customers.[14]

These imperatives must be placed in an international perspective. The customer for Kansas industry may be of another culture and hold different values, standards, and preferences. Kansas industry will not be internationally successful until it develops a better understanding of the world and its people. While we focus on programmatic responses to this dilemma in the short run, such as overseas offices and export finance support, there are more far-reaching implications. These include, for example, changes in the state education system from bottom to top, ranging from a renewed focus on geography, history, languages, and foreign culture studies to the development of an international emphasis in the business education of our future managers.

Special Difficulties for Kansas

Earlier in this paper, we noted some characteristics of Kansas that contribute to relatively low levels of exporting by Kansas industry. From a policy development perspective, these factors can be couched in terms of the following barriers:

1) general lack of knowledge about the opportunities;

2) financing difficulties and business organization;

3) cultural differences; and

4) bureaucratic hassles.

A growing number of federal and, more recently, state policies seek to mitigate factors that hinder small business exporting. These focus in particular on

1) informing businesses of opportunities;

2) encouraging businesses to export and helping with financing;

3) utilizing educational resources to bridge differences in culture and business practices; and

4) making international transactions easier.

The bottom line is that Kansas needs special measures to help businesses overcome difficulties that are either more severe in Kansas or state-specific. A few programs are in place, more are needed. Furthermore, it is not a short-term issue, for some of the state's particular characteristics, like location, are permanent, and others, like cultural awareness, need decades of emphasis in the educational system to bear fruit.

Conclusion

The issue is *not* whether Kansas industry should compete in world markets. It has no choice but to do so, and the rewards from doing so are worth the effort. Rather, the key questions are 1) What fundamental changes are necessary to underpin our participation in the world economy over the long run on a competitive basis? and 2) Given the nature of Kansas industry, what mechanisms and policies are needed on a more immediate basis to help Kansas industry participate more in the global economy?

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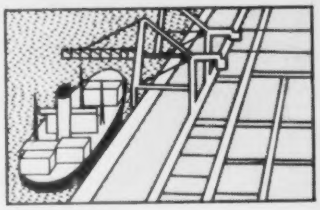
Characteristics of Kansas Exporters



Steven Maynard-Moody
William Cheek

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Increasing Kansas's participation in the national and world economies is an important part of the state government's plan for economic development. How this might be accomplished most efficiently is still to be determined. To provide data for informed policy making, 424 business owners and managers were asked about their product markets, their firms' characteristics, barriers to exporting to foreign countries, and programs to facilitate foreign export trade. The survey results point to several factors affecting exports that might be addressed by policy makers.

Methodology

The telephone survey for this study was conducted from February 29 to March 8, 1988. A total of 424 interviews with the owners or managers of exporting and non-exporting Kansas firms were completed. The response rate for the survey was 89 percent: for every ten individuals contacted, nine responded to the survey.

Questions asked in the survey were designed by the Institute research staff in collaboration with Kansas Inc., which the Kansas legislature has established as the planning organization for state economic development.

The sample was drawn from the Kansas Department of Commerce's *Directory of Manufacturers and Products.* Two hundred and three exporting firms and 221 non-exporting firms were included in the final sample.

The percentages obtained in the sample are estimates of the entire populations under consideration. Sampling theory suggests that when an adequate random sample is obtained within a population, the sample will adequately reflect the responses that would be given if the entire population were surveyed. The margin of error in a survey is the probable difference between interviewing everyone in a given population and a sample drawn from that population. The margin of error for this survey is 5 percent at a 95 percent level of confidence. Given this margin of error, chances are that in about 19 out of 20 cases if all exporters and non-exporters in Kansas had been surveyed with the same questionnaire, the result would differ from the poll findings by no more than 5 percent in either direction.

Although great care is taken in composing questions and drawing a sample, caution should be exercised in the interpretation of telephone survey results. Responses generally represent immediate answers to questions, and respondents are limited to the answer categories given. Nevertheless, telephone surveys are by far the best form of public opinion polling to obtain random and representative samples in a timely fashion.

Results

The survey results show clearly that larger firms are more likely to export than smaller ones. The majority of Kansas exporting businesses employ between ten and 99 full-time employees. Nearly half of exporters have sales of between $1 million and $10 million. In contrast, most non-exporting firms have fewer than ten full-time employees and less than $1 million in sales.

Even though exporting firms are relatively large, decisions about exporting are made by executives in Kansas (rather than by out-of-state corporate leaders) in about two-thirds of export firms. And most of these managers are optimistic about their potential for increasing exports.

For the most part, these executives have decided to do their own marketing, and they do not rely heavily on foreign trade fairs to sell their products. Nearly 80 percent of exporters market their products themselves. About 10 percent use U.S. marketing firms, and another 10 percent hire international marketing firms.

Only 39 percent of exporters attend foreign trade fairs. However, 59 percent plan to attend trade fairs in the future. This increase may point to rising interest in export expansion in the Kansas business community. If the state were to pay half the expenses of attending foreign trade fairs, 66 percent of exporters say they would attend.

Characteristically, Kansas firms that sell their products abroad also distinguish themselves from non-exporters by their activity in national markets. Exporters sell 72 percent of their products in the national market rather than locally, within the state, or abroad. Businesses that do not export sell less than a third of their products nationally, and nearly half their sales are in the local market.

The survey respondents export

Table 1
Products of Surveyed Kansas Export Firms

Type of Product	Percent of Firms
Non-electrical machinery	27.9%
Fabricated metal products	10.9
Rubber and plastics	7.5
Food and kindred products	7.0
Instruments and related products	6.0
Miscellaneous manufacturing	6.0
Electric and electrical equipment	6.0
Transportation equipment	5.5
Chemicals and allied products	5.5
Printed and published materials	5.0
Stone, clay, and glass products	3.0
Apparel and textile products	3.0
Primary metal industries	1.5
Paper and allied products	1.5
Agricultural products-livestock	1.0
Furniture and fixtures	1.0
Agricultural services	0.5
Lumber and wood products	0.5
Leather and leather products	0.5
Petroleum and coal products	0.5
Total	100.0 (N=201)

their products to more than fifty countries. Europe receives the largest share of Kansas exports, 37 percent, and Canada is next, receiving 23 percent. Fifty-one percent of Kansas exports are classified as machinery, instruments, transportation equipment, and miscellaneous manufactured goods.

Managers and owners of export firms were also asked whether or not five types of state programs would help their businesses. They agreed with managers of non-exporting firms when they gave the highest rankings to programs that would provide information. Eighty-two percent of exporters would like the state to provide information on foreign markets. Individual assistance with export development would help 71 percent of exporters, and information on foreign governments would help 68 percent. Sixty-seven percent could use state help with financing exports, and 51 percent would like the state to help coordinate financing with private banks. About 70 percent of Kansas exporters finance their exports internally. Fifteen percent use credit from Kansas banks, and 13 percent use out-of-state banks. Less than 1 percent have received financing from venture capital firms.

Eighteen exporters, 9 percent, reported they had lost export contracts because of a lack of financing. When they were asked what type of financial assistance programs could help increase exporting, their preferences were almost equally divided among open accounts for overseas customers, a program to allow exporters to receive payment on shipment of goods, and a program to allow customers to pay for goods up to 180 days after receipt. So few respondents had lost contracts because of financing problems that we cannot generalize from these responses.

In contrast, many non-exporters consider lack of financing a significant barrier to entering export markets. Forty-seven percent of the businesses that would like to export report that they do not because of lack of financing.

Discussion

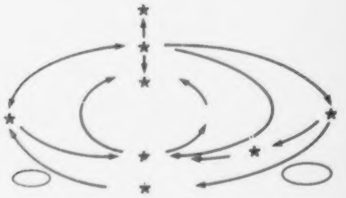
One strategy for increasing Kansas exports would be to establish programs that target firms with characteristics similar to those of successful exporters. Our survey shows that these would be larger firms, firms with a large proportion of sales in the national market, and firms producing machinery, fabricated metal, and the other types of products shown in Table 1.

Entering the export market could help small firms grow as well. A program to assist small businesses that are selling products with proven export potential would be promising. However, such a program should take financing problems into consideration. Survey results indicate that financing is a barrier to exporting for small firms. Exporting firms are larger than non-exporters, they can rely heavily on internal funds for financing, and they do. Also, non-exporters in general consider financing to be a barrier.

The survey results show that no matter what type of firm is targeted for state programs, information on foreign markets, and to a lesser extent on foreign governments would be helpful.

For more detail, see the full report of this study, International Exporting and Non-Exporting Businesses in Kansas, *Monograph Series no. 154, Institute for Public Policy and Business Research, May 1988. The study was conducted at the University of Kansas for Kansas Inc.*

Leading Sectors of the Kansas Economy



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Introduction

In the previous issue of the *Kansas Business Review*, we forecasted Kansas sectoral employment based on single-equation time series methods. As we discussed in that article, the method has its limitations. While some economic variables may be strongly related to other variables, the method assumes every variable may be explained by its own historical pattern. A more direct and conceptually more accurate approach is to pool all relevant variables to form a Vector Autoregression (VAR) model. It is widely illustrated in the literature that VAR provides better forecasts than single-equation time series models. Here we attempt to derive VAR forecasts of Kansas sectoral employment for comparisons.

Nonetheless, VAR has problems of its own. To estimate a simple VAR(k) model (i.e., VAR with k lags on each variable) for n economic variables requires the estimation of $kn^2 + n(n-1)/2$ parameters. For our case, $n = 11$ the number of parameters for a VAR(3) model is at least 418, while the sample size is only 109. That is, each parameter uses fewer than three observations. The estimates are naturally unreliable.

There are two possible solutions to this problem. The first gives rise to the so-called Bayesian Vector Autoregression (BVAR) models. BVAR imposes prior restrictions on the parameters in order to reduce the number of parameters. The second solution relies on the concepts of causality between economic variables.

Specifically, the causality applied here is Granger's: An economic variable x is said to cause another variable y if the past history of x helps predict y, and the past history of y does not help predict x. Hence lagged y variables are not explanatory variables in the equation for x if x causes y. This reduces the number of parameters. For this article, we adopt this approach. Forecasts based on BVAR will be presented in a future article.

Identifying the Causal Structure

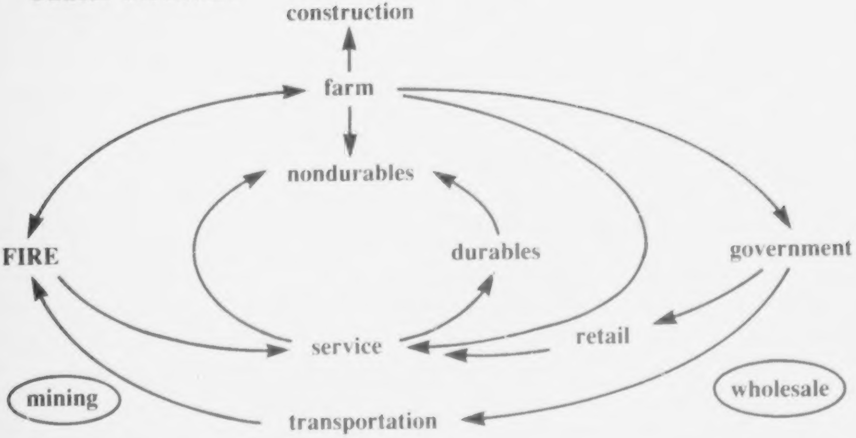
To construct the causal structure for Kansas sectoral employment, we first investigate the causal relationship between two sectoral employment series, $x(t)$ and $y(t)$. The procedure is simply regressing x and y on lagged variables of x and y respectively. Choosing the appropriate lag orders is a major problem. In general, a large lag order tends to alleviate the problem of serial correlation among the regression errors. A small lag order increases the power of hypothesis testing regarding the regression coefficients. Because of our previous experience with single-equation time series models, we adopt a model of VAR(3) with seasonal dummy variables. (Note that the data series are not deseasonalized in advance.) We also compare our results to VAR(1) estimates. In several cases, the VAR(1) model is clearly inappropriate, although it greatly reduces the number of parameters. Our results indicate that employment in every sector either causes or is caused by some other sector.

Theoretically, the above observation is not casual. For example, assume a common variable, say z, affects both x and y. Leaving out z establishes a spurious relationship between x and y. Another example would be where x causes y, and y causes z, but x and z do not have any direct relationship. In this case, when y is left out of the model, a spurious relationship between x and z may be found.

To eliminate these spurious relationships, we apply VAR(3) to the three variables (x,y,z) whenever a triangle exists to link them together. This approach does not address the problem of spurious relationships that may be found when a variable is affected by more than two variables.

We applied model selection criteria to eliminate the possibility of these types of spurious relationships. Figure 1 shows our results. A line with an arrow shows the relationship between two variables. The arrow points to the variable that receives the impacts. For example, farm employment affects construction employment, but the converse is not true. Service employment affects nondurables manufacturing employment directly and indirectly (through durables manufactur-

Figure 1
Causal Structure



ing). Mining and wholesale trade are independent sectors, isolated from the rest of the Kansas economy.

Figure 1 must be interpreted with care. First, the causality identified here is the lagged x variables' effect on the current y variable. The "contemporary effect" is not taken into account. Second, where x affects y, the impact may be positive or negative. In fact, the impact reflects the balance of two forces. First there is an expansion effect when employment increases in one sector because another sector is growing and needs more inputs. The second is a substitution effect. This occurs when two sectors compete for labor. Competition drives the price of labor up, so businesses find cheaper alternatives to hiring people. If the expansion effect is stronger than the substitution effect, x affects y positively. Otherwise x affects y negatively.

For example, when farm employment increases, employment in other sectors usually decreases. Other sectors must be losing workers to the farm sector. On the other hand, when government employment increases, employment in other sectors increases due to the expansion effect.

Forecasting for 1988 and 1989

To quantify the causal structure, we apply the Seemingly Unrelated Regression (SUR) method to estimate the system of equations. The method accounts for possible contemporary correlations among disturbance terms. Thus, it is more efficient than Ordinary Least Squares (OLS) and remains consistent with the VAR spirit. These estimates are used to forecast Kansas employment by sector for 1988 and 1989. Table 1 shows the results.

Comparing the Two Methods

Before summarizing the VAR forecasts, we compare them to forecasts made using single-equation time series. First, for five sectors VAR forecasts much more growth than the single-equation time series methods over 1988 and 1989. These sectors are construction; finance, insurance, and real estate (FIRE); transportation; and nondurables and durables manufacturing. VAR forecasts are usually smaller over the same span for four sectors: government, services, retail and wholesale trade. Most VAR forecasts for farm and mining are slightly larger, but some are much smaller than the single-equation time series forecasts. In all cases, the gap between the results of the two types of forecast widen over the time horizon (1988I to 1989IV).

Period-to-period volatility shows consistent trends in only four sectors. Farm employment becomes more volatile the farther in the future we are forecasting. Wholesale trade, services,

Table 1
Kansas Employment Forecasts (in thousands)

	1988				1989			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction	39.7	45.8	48.2	45.4	40.2	46.4	48.6	45.9
Mining	12.0	12.5	13.0	12.9	12.7	13.0	13.3	13.2
Durables	104.2	105.0	105.0	105.1	104.9	105.5	105.4	106.7
Nondurables	73.9	75.0	75.5	75.4	75.4	76.4	76.8	76.5
Transportation	60.7	62.1	62.7	62.8	62.2	63.5	64.1	63.9
Wholesale Trade	69.1	70.2	70.7	70.1	70.4	71.4	71.9	71.3
Retail Trade	182.9	187.3	188.7	191.6	185.5	189.6	191.2	194.0
FIRE	56.5	57.6	58.4	58.0	58.1	59.2	60.0	59.7
Services	203.2	207.6	208.0	208.1	208.3	212.4	213.3	213.6
Farm	50.0	65.7	71.9	51.6	45.8	64.2	70.7	48.9
Government	202.6	202.9	189.1	203.3	203.8	202.9	191.2	204.6

and government become less volatile. Finally, both sets of forecasts generally move in the same direction. For example, when the single-equation method forecasts an increase in a variable, VAR also forecasts an increase.

The Forecast

The forecasts are discussed here by first comparing the percentage change in employment from each quarter in 1987 to the same quarter in 1988 and 1989. Then these are averaged over 1988 and 1989 respectively. The results indicate that the farm sector is the only sector where employment will be lower in 1988 and 1989 than it was in 1987. VAR predicts decreases of 3.07 percent and 7.29 percent respectively. Not far ahead are three other sectors: construction, government, and transportation.

Construction employment is predicted to rise an average of 0.72 percent in 1988 and only 0.9 percent in 1989 over 1987 levels. Likewise, government sector employment will increase by only 0.85 percent in 1988 and 1.4 percent in 1989 over 1987 levels. The prospects for the transportation sector are somewhat better: Increases in 1988 of 1.06 percent and 3.21 percent in 1989 over 1987 levels are forecasted. Two sectors with slightly faster employment growth in 1988 are durables and nondurables manufacturing. Durables employment will be 2.57 percent higher in 1988 than it was in 1987 and 3.17 percent higher in 1989. Compared with 1987 levels, employment in nondurables manufacturing will be 2.02 percent higher in 1988 and 3.84 percent higher in 1989. Another sector in this range is retail trade. On average, retail trade employment will grow 2.32 percent this year, and next year it will be 3.66 percent higher than it was in 1987.

The next step up in growth rates (especially for 1989) includes three sectors: wholesale trade, FIRE, and services. Employment in wholesale trade will rise by an average 3.02 percent in 1988 and 4.76 percent in 1989 over 1987 levels. Finance, insurance, and real estate employment is forecasted to grow 2.18 percent and 5.09 percent in 1988 and 1989 respectively. The service sector is the high-growth sector. VAR forecasts show an average increase in employment of 2.98 percent in 1988 and an increase of 5.54 percent in 1989 over 1987 employment levels.

Finally, for mining VAR predicts spectacular increases of 10.08 percent in 1988 and 13.77 percent in 1989 over 1987 levels. However, this sector includes oil and gas extraction, which is a notoriously unstable business. Hence it is very doubtful that any purely time series approach will successfully predict this sector.

The authors wish to acknowledge Norman Clifford, Mohamed El-Hodiri and De-Min Wu for very helpful discussions.

Appendix

In Table 1A below, we compare VAR forecasts and single-equation time series forecasts based on actual data from the first quarter of 1988. According to these results, the single-equation time series performs slightly better. This is, however, a preliminary comparison, since the actual data will probably be revised.

Table A1
Two Forecasting Methods Compared
Kansas Employment (in thousands)

Variable	Actual Employment	Forecast 1	Forecast 2
Labor Force	1268.2	1263.3 (-0.39)	
Total Employment	1200.2	1195.4 (-0.40)	
Nonagricultural	1003.5	1002.7 (-0.08)	
Mining	11.6	12.0 (-3.45)	12.0 (3.45)
Construction	36.8	39.4 (7.07)	39.7 (7.88)
Durables	104.6	102.9 (-1.63)	104.2 (-0.38)
Nondurables	73.8	74.0 (0.27)	73.9 (0.14)
Transportation	60.4	60.1 (-0.50)	60.7 (0.50)
Wholesale Trade	68.5	69.1 (0.88)	69.1 (0.88)
Retail Trade	185.1	183.2 (-1.03)	182.9 (-1.19)
FIRE	56.5	56.5 (0.00)	56.5 (0.00)
Services	204.1	204.1 (0.00)	203.2 (-0.44)
Farm	49.8	49.8 (0.00)	49.9 (0.20)
Government	202.0	201.9 (-0.05)	202.6 (0.30)

Note: Forecast 1 is based on single-equation time series methods. Forecast 2 is based on Vector Autoregression models coupled with causal structure identification procedures. The numbers in parentheses are the forecast errors in percent: [(Forecast - Actual) / Actual] x 100.

Economic Conditions

Introduction

The U.S. economy will continue to grow in 1989, although at a slower rate than in 1988, fueled as in 1988 by growth in investment and export demand. The national unemployment rate will dip below 5.0 percent in 1989, but inflation will remain moderate. Interest rates will continue to rise during the coming year, as the growth rate of the real money supply continues to lag the growth rate of real output. The Kansas economy will perform moderately well in 1989, as it has in 1987 and 1988.

These are the main themes of the forecasts produced this quarter at the Institute for Public Policy and Business Research at the University of Kansas.

The national forecast is based on the following major assumptions.

1) The Federal Reserve will maintain a restrictive monetary policy, with M2 growing about 6 percent per year in 1988-1989.
2) Defense expenditures will decline slightly while nondefense spending will increase slightly.
3) The value of the dollar will be stable for the rest of 1988 and will decline at a modest 1 percent annual rate in 1989.
4) Imported oil prices will rise 5 percent per year over the next two years.
5) The other OECD countries will experience sluggish growth in 1989.

National Forecast

U.S. real GNP will grow 4.1 percent this year following a relatively strong 3.4 percent growth rate in 1987. Although no recession is forecasted for 1989, the economy will cool significantly, with the growth rate of real GNP slowing to 2.8 percent. The growth in GNP in 1989 will continue to be driven by strong demand for nonresidential fixed investment and for U.S exports. Demand for consumption goods will remain steady, while government purchases of goods and services will increase only slightly.

Looking at the national sectors in more detail, real consumption spending will grow 2.5 percent during 1989, just matching its 1988 rate. Consumption demand will be paced by increased demand for durable goods and for services.

Demand for durable goods will increase 3.4 percent in 1989 following a 4.8 percent increase in 1988. Spending on durables will be led by new car purchases, projected to increase 3.7 percent in 1989 after a 6.4 percent increase in 1988, and furniture and household equipment, projected to increase 3.9 percent in 1989 after growing 7.2 percent in 1988.

Demand for services is expected to increase 3.6 percent in 1989, matching its 1988 increase. Spending on services will be spearheaded by purchases of electricity and gas, which will follow its 1988 growth of 4.3 percent with a 6.3 percent rate of growth in 1989.

Purchases of nondurable goods will lag in 1989 as they have in 1988 and 1987. Real demand for nondurable goods will increase less than one percent in 1989. This follows a virtually flat performance in 1988 and a very modest 1.3 percent increase in 1987. Within the nondurable goods category, gasoline and oil purchases will increase 3.4 percent in 1989, following increases of 1.0 percent in 1987 and 1.5 percent in 1988. Fuel oil and coal purchases will decrease 3.1 percent in 1989 after increasing 4.2 percent in 1988 and falling 4.0 percent in 1987. Growth in demand for clothing and shoes will remain elusive in 1989, with 1988's 2.8 percent decrease followed by a smaller 0.6 percent decrease in 1989. 1989's 0.7 percent increase in food purchases will be only slightly higher than the increase in that category in 1987 and 1988.

Growth in real demand for nonresidential fixed investment will remain strong in 1989, growing 10.5 percent compared with 11.4 percent in 1988. There are two reasons for the slight weakening: 1) higher real interest rates in 1989 (see below) will increase user costs of capital, and 2) firms bought significant amounts of new equipment in 1988. Growth in 1989 is nevertheless well above the 1987 increase of 2.8 percent. In 1989, investment in equipment will be the dominant force as it was in 1988. Growth in purchases of equipment are expected to increase 13.3 percent in 1989 following 1988's increase of 15.4 percent. This contrasts strongly with the expected 1989 2.5 percent and the 1988 1.2 percent growth rate in investment in nonresidential structures. Residential investment will continue to be weak, with 1987's flat performance and 1988's 2.9 percent decline followed by a 2.8 percent decline in 1989.

Growth in real export demand will remain strong in 1989, helping to stimulate the economy. Real exports will increase 6.7 percent, which is, however, a significant reduction from the 13.1 and 17.1 growth in 1987 and 1988, respectively. Real export growth will slow as the dollar stops depreciating and the economies of our major trading partners grow more slowly. A trade-weighted average of the dollar exchange rate is expected to fall only 0.5 percent in 1989 after plunging 13.7 percent in 1987 and continuing to fall another 6.7 percent in 1988, and the growth rate of the OECD countries is predicted to shrink to 1.3 percent in 1989 after a 2.7 percent increase in 1987 and a 2.6 percent increase in 1988.

At the same time, the growth rate of real imports will decline slightly in 1989 to 5.4 percent, following a growth of 7.9 percent in 1987 and 6.7 percent in 1988. Continued growth in exports plus a reduction in the rate of growth of imports will result in a slightly improved trade balance in 1989. The deficit will be $91.5 billion in real terms, down slightly from 1988's expected $92.9 billion deficit, but a far cry from 1988's dramatic $36 billion improvement.

The government sector will contribute little to growth in aggregate demand in 1988. Real government purchases of goods and services at all levels are expected to increase 1.5 percent in 1989, following a 0.2 percent decrease in 1988 and a 2.6 percent increase in 1987. Federal government purchases of goods and services are expected to continue to decline in 1989, although the 0.8 percent decrease will be much less dramatic than the nearly 4 percent decrease in 1988.

The main cuts will be in defense spending, which will decrease 1.8 percent following a decrease of 1.4 percent in 1988. Federal nondefense spending will increase 3 percent after falling nearly 13 percent in 1988.

In nominal terms, federal government spending will increase 4.8 percent in 1989, while receipts will increase 7.3 percent. Consequently, the federal budget deficit will decrease modestly to $105.6 billion in 1989 compared to $124.3 billion in 1988 and $157.8 billion in 1987.

Real state and local government spending will continue to increase steadily as it has during the last two years, with 1987's 3.3 percent increase followed by a 2.8 percent increase in 1988 and a 3.1 percent increase in 1989. Interest rates, which have been rising during the last half of 1988, are expected to continue to rise during 1989. Since real output will grow faster than the real money supply, borrowers will have to pay more for money in 1989. Specifically, the nominal money supply, taken as M2, grew 6.5 percent in 1987, 5.8 percent in 1988, and will grow 6.3 percent in 1989. However, deflating the money supply we conclude that the rate of growth of the real money supply in the same three years is 3.2 percent, 2.8 percent, and 2.1 percent. Given real GNP growth of 3.4 percent, 4.1 percent and 2.8 percent for those three years, respectively, real money growth significantly lags real output growth in 1988 and 1989, putting strong upward pressure on interest rates. Thus, the rate on three-month Treasury bills, the prime lending rate charged by banks, and the rates on Moody's AAA bonds are all expected to rise in 1989. The forecasts for these rates are shown in Table 1.

The unemployment rate for the United States is expected to decline slightly, after falling significantly in 1988. The 1989 rate of unemployment is expected to dip to 4.8 percent in 1989 after falling from 6.1 percent in 1987 to 5.3 percent in 1988. In spite of the slowdown in growth of the economy in 1989, there will still be enough expansion to increase employment slightly more than the modest increase in the labor force, leading to this further reduction in the unemployment rate.

In spite of the (for recent times) very low unemployment rates and the high levels of capacity utilization in many industries, prospects for significantly higher inflation remain remote. The forces acting to produce demand-pull inflation appear to be weak. Taking 3 percent as a growth rate of potential GNP, we find that although the 4.2 percent 1988 growth rate of real GNP is above the rate of growth of potential GNP, the projected 1989 growth rate of 2.8 percent is slightly below the growth rate of potential GNP. Thus, there would not seem to be significant upward pressure on prices from the demand side.

Table 1
Interest Rates

	1987*	1988	1989
Three-month treasury bills	5.8	6.6	8.3
Prime rate	8.2	9.4	11.5
Moody's AAA bonds	9.4	10.0	11.4

*From U.S. Congress, Joint Economic Committee, *Economic Indicators*, p.30.

On the other hand, there does appear to be some likelihood of cost-push inflation. The recent history of moderate inflation is reflected in expected wage increases in 1989. The projected 1989 increase of 4.3 percent in private non-farm wages is about the same as 1988's expected 4.4 percent increase. Given that the productivity of U.S. workers has grown much less than 4 percent recently and that this trend will probably continue, there is some inflationary pressure on the cost side. However, as long as wages are rising in the 4 percent range, this upward pressure on prices should be modest. Thus for 1989 the predicted rate of inflation, as measured by the rate of change in the consumer price index, is 4.2 percent, only marginally higher than the 4.1 percent rate in 1988. The biggest increases are expected in food and beverages, household furnishings and operations, apparel and upkeep, motor fuel, and medical care. Forecasts of rates of inflation for these categories are shown in Table 2.

Kansas Forecast

In 1989 the Kansas economy will continue to perform at about the same level that it did in 1987 and 1988. Nonagricultural wage and salary employment will increase 1.5 percent in 1989, close to its 1.7 percent increase in 1988 and equal to its 1987 growth. In terms of personal income, the Kansas economy will grow 6.0 percent in 1989 in nominal terms, compared to 5.6 percent in 1988 and 5.1 percent in 1987. Real Kansas personal income, defined to be nominal Kansas personal income deflated by the personal consumption deflator for the nation, is expected to grow 1.7 percent in 1989 compared to 1.4 percent in 1988 and 1.0 percent in 1987.

Manufacturing employment is

Table 2
Rates of Inflation for Consumer Purchases

	1988	1989
Food and beverages	4.0	6.1
Household furnishings and operations	2.7	5.3
Apparel and upkeep	5.7	4.5
Motor fuel	1.4	6.2
Medical care	6.6	5.8

expected to perform better than the average for the state. Employment in nondurable goods manufacturing is forecasted to increase 2.6 percent after increasing 1.4 percent in 1988. Printing and publishing employment, with a 5.1 percent increase for 1989, is expected to be one of the strongest nondurables subsectors. Apparel, with a 1.6 percent decrease forecasted for 1989, and petroleum and coal products with a 6.3 percent decrease forecasted for 1989, are expected to be among the weaker nondurables subsectors.

Employment in durable goods (manufacturing is predicted to increase 2.8 percent, following a 3.9 percent increase in 1988. Among the strongest expected subsectors for 1989 are stone, glass, and clay, primary metals, fabricated metals, and machinery, including electrical machinery. The forecast for employment growth in these sectors is shown in Table 3. Among the more slowly growing subsectors for 1989 is transportation equipment, which is expected to grow only 1.0 percent after growing 2.8 percent in 1988.

Table 3
Employment in Durable Goods Manufacturing

	1988	1989
Stone, glass, and clay	-3.0	5.3
Primary metals	8.4	11.5
Fabricated metals	7.5	4.1
Machinery, including electrical	5.5	4.7

Most nonmanufacturing sectors are expected to fare less well in terms of 1989 employment growth. Transportation, communication and utilities will grow 0.5 percent following a 0.3 percent decrease in 1988. Wholesale trade will grow 0.5 percent after growing 2.7 percent in 1988. Retail trade will grow 0.9 percent after growing 2.2 percent in 1988. Finance, insurance, and real estate will grow 1.0 percent after growing 1.6 percent in 1988. Services employment will grow 2.1 percent after growing 3.4 percent in 1988. Federal government employment will grow 0.6 percent after shrinking 2.2 percent in 1988. State and local government employment will grow 1.5 percent after growing 1.1 percent in 1988.

Most categories of nominal personal income are expected to grow in 1989. Wages and salaries are expected to grow 5.6 percent, same as 1988. Non-farm proprietor's income is expected to grow 5.9 percent compared to 5.2 percent in 1988. Dividends, interest, and rents are predicted to grow 8.8 percent following a 7.9 percent growth in 1988. Personal contributions for social insurance are expected to grow 6.7 percent, down from a 13.9 percent increase in 1988. Transfer payments are expected to increase 7.2 percent, up from a 5.6 percent increase in 1988.

Other labor income is predicted to increase 5.3 percent, compared to a 3.8 percent increase in 1988. However, due to some of the long term effects of the recent drought, farm proprietor's income is expected to fall 4.9 percent, after increasing 7.5 percent in 1988.

Norman Clifford, Director
Kansas Econometric Model
Institute for Public Policy
and Business Research

Kansas Center for Community Economic Development

The Institute for Public Policy and Business Research and the Kansas Center for Rural Initiatives have received a federal grant to establish a joint center called the Kansas Center for Community Economic Development. The Center will provide economic development expertise for rural Kansas communities of 50 thousand residents or fewer. Long-term projects will provide five types of services: strategic planning assistance, community development project consultations, information dissemination, development of a shared data base with the Kansas Department of Commerce, and studies evaluating community development efforts.

For Further Information

Communities with populations from 10 thousand to 50 thousand should contact:

Charles Krider
Institute for Public Policy and Business Research
The University of Kansas
218 Summerfield Hall
Lawrence, Kansas 66045
(913) 864-3123

Communities with populations of less than 10 thousand should contact:

Jan Flora
Kansas Center for Rural Initiatives
Farrell Library
Kansas State University
Manhattan, Kansas 66506
(913) 532-6865

Kansas Statistical Abstract
1987 - 1988

The *Kansas Statistical Abstract, 1987-1988*, summarizes much of the state, county, and city level data available concerning Kansas, including population; vital statistics and health; housing and construction; education; climate; employment and earnings; personal income; banking and finance; state and local government finances and employment; courts, crime, and public safety; parks and recreation; communications; transportation; agriculture; mining and mineral products; and manufacturing. The Abstract is available in a spiral bound volume or on 5 1/4" PCDOS/MSDOS floppy diskettes. The diskette files are available in Lotus 1-2-3 format.

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Economic Indicators

TABLE ONE: ECONOMIC INDICATORS

Comparison Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	% Change From Previous Period**	% Change From Year Ago
A. Personal Income - Annual rates, SA						
Kansas - Mil. $	1st	38612.0	38404.0	36503.0	2.18	5.78
United States - Bil.$	2nd	4021.97	3951.47	3736.13	7.33	7.65
B. Employment						
Kansas - Thou., NSA	2nd	1245.34	1200.26	1222.71		1.85
United States - Mil., SA	2nd	114.64	114.21	112.15	1.51	2.23
C. Unemployment Rate						
Kansas - % NSA	2nd	4.2	5.4	4.8		
United States - % SA	2nd	5.4	5.7	6.2		
D. Retail Sales - Annual rates						
Kansas - Mil. $, NSA	2nd	4389.34	4179.18	4126.36		6.37
United States - Bil. $, SA	2nd	397.94	391.15	375.87	7.12	5.87
E. Consumer Price Index-U, All items, SA						
Kansas City* - 1982-1984 = 100	JAN-JUN	116.30	114.60	111.50	2.99	4.30
United States - 1982-1984 = 100	JAN-JUN	116.92	114.75	112.50	3.81	3.93
Kansas Indicators						
F. New Incorporations, NSA						
For Profit - Number	2nd	1072.00	1163.00	908.00		18.06
G. Tax Revenue, NSA						
General Fund Tax Revenue - Mil. $	2nd	680.10	479.10	491.70		38.32
H. Operating Expenditures, NSA						
General Fund Operating Expenditures - Mil. $	2nd	703.50	496.40	507.90		38.51

*The Kansas City CPI-U is published semi-annually with the first period being January through June average and the second period being July through December average.
National employment and unemployment rate figures are based on the Current Population Survey (household survey).
State figures are based on the Current Employment Statistics Survey (establishment survey).
NSA-Not seasonally adjusted.
SA-seasonally adjusted.

**Change from previous period at annual rates provided only for seasonally adjusted data.

SOURCE: BEA, BLS, Ks. Dept. of Human Resources, Ks. Secretary of State, Ks. Dept. of Administration, Ks. Dept. of Revenue.

TABLE TWO: NATIONAL INDICATORS
(Seasonally Adjusted)

General Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	% Change From Previous Period*	% Change From Year Ago
A. Income Measures, Annual rates						
Gross National Product - Bil. 82$	2nd	3988.10	3956.10	3823.00	3.27	4.32
Disposable Personal Income - Bil. 82$	2nd	2764.53	2762.33	2652.77	0.32	4.21
Personal Consumption - Bil. 82$	2nd	2577.20	2559.80	2516.60	2.75	2.41
Gross Private Investment - Bil. 82$	2nd	717.70	728.90	660.10	-6.01	8.73
Net Export of Goods and Services - Bil. 82$	2nd	-90.10	-109.00	-126.00		
Government Purchases - Bil. 82$	2nd	783.30	776.40	772.20	3.60	1.44
Savings Rate - %	2nd	4.07	4.23	2.57		
B. Labor Force						
Civilian Labor Force - Mil.	JUN	121.47	120.98	119.61	5.01	1.56
Employed - Mil.	JUN	115.02	114.20	112.30	9.00	2.42
Unemployed - Mil.	JUN	6.46	6.78	7.31	-44.83	-11.67
Unemployment Rates - percent						
All	JUN	5.30	5.60	6.10		
Women	JUN	5.40	5.60	6.00		
Men	JUN	5.20	5.60	6.20		
Teens	JUN	13.60	15.60	16.00		
Blacks and other than white	JUN	10.30	11.30	11.50		
Whites	JUN	4.50	4.70	5.30		
C. General Business						
Industrial Production - 1977 = 100	2nd	136.03	134.50	128.23	4.64	6.08
~~Mfg. and Tr~~ade Sales - Bil. 82$	1st	1340.60	1321.20	1296.80	6.00	3.38
Mfg. and Trade Inventories - Bil. 82$	1st	2046.99	2011.21	1951.05	7.31	4.92
New Orders, Durable Goods - Bil. 82$	2nd	315.41	305.94	296.12	12.97	6.51
Capacity Utilization, Mfg. %	2nd	83.10	82.70	80.50		
New Housing Starts, Private - Tho.	2nd	4431.00	4430.00	4817.00	0.09	-8.01
D. Prices						
Consumer Prices - 1982-1984 = 100						
CPI-U, All Items	JUN	118.00	117.60	113.50	4.16	3.96
Food	JUN	117.70	117.00	113.90	7.42	3.34
Housing	JUN	118.20	117.80	114.00	4.15	3.68
Apparel	JUN	116.10	116.50	110.80	-4.04	4.78
Transportation	JUN	108.40	108.20	105.30	2.24	2.94
Medical	JUN	138.30	137.70	130.00	5.36	6.38
Producer Prices - 1982-1984 = 100 (NSA)						
All Commodities	JUN	107.40	106.50	103.00	10.63	4.27
Industrial Commodities	JUN	106.50	106.10	102.40	4.62	4.00
Crude Materials	JUN	98.20	97.10	95.10	14.47	3.26
Capital Equipment	JUN	114.20	113.90	111.40	3.21	2.51
Agricultural Prices - 1977 = 100						
Prices Received	JUN	137.00	134.00	130.00	30.43	5.38
Prices Paid	JUN	168.00	168.00	162.00	0.00	3.70
E. Monetary and Credit Aggregates*						
Total Reserves	2nd	5.80	3.50	6.50		
M1	2nd	6.20	3.90	6.60		
Commercial Banks:						
Savings	2nd	11.00	6.30	22.40		
Small Denomination Time	2nd	11.70	13.70	-2.70		
Large Denomination Time	2nd	7.40	3.40	17.10		
Thrift Institutions:						
Savings	2nd	6.80	-2.40	19.20		
Large Denomination Time	2nd	8.50	15.70	-5.10		
Debt Components:						
Federal	2nd	11.20	9.30	8.90		
Nonfederal	2nd	6.90	8.00	8.50		
Interest Rates - Monthly						
Prime Rate - %	JUN	9.00	8.84	8.25		
Discount Rate - %	JUN	6.00	6.00	5.50		

* Annual rates of change, seasonally adjusted in percent.

SOURCES: BEA, BLS, Survey of Current Business, Federal Reserve Bulletin.

TABLE THREE: QUARTERLY EMPLOYMENT IN KANSAS

	1988 Q2	1988 Q1	1987 Q2	% Change 1987 Q2
A. General Indicators				
Civilian Labor Force - Tho.	1299.84	1268.20	1283.00	1.31
Employed - Tho.	1245.34	1200.26	1222.71	1.85
Farm Employment - Tho.	66.23	49.83	74.03	-10.54
Unemployed - Tho.	54.49	67.95	60.29	-9.61
Initial Claims for Unemployment Insurance - Tho.	9.98	13.81	12.29	-18.77
Average Work Week, Mfg. - Hrs.	40.77	40.67	41.00	-0.57
B. Industry Employment, in thousands				
All Industries	1021.87	1003.87	998.40	2.35
Manufacturing	180.30	178.50	176.17	2.35
Durable Goods	106.00	104.67	101.93	3.99
Fabricated Metal Production	11.83	11.40	11.10	6.61
Machinery (incl. Elec.)	28.77	28.40	27.47	4.73
Transport. Equip.	46.03	46.30	44.37	3.76
Nondurable Goods	74.30	73.83	74.23	0.09
Food and Kindred Prod.	28.40	28.23	28.03	1.31
Meat Products	14.83	14.80	14.47	2.53
Printing and Publishing	19.00	18.67	19.07	-0.35
Petroleum and Coal	3.07	3.00	3.07	0.00
Mining	11.60	11.63	11.40	1.75
Oil and Gas Extraction	10.13	10.30	9.87	2.70
Contract Construction	42.93	36.83	46.53	-7.74
Trans. and Public Utilities	61.23	60.53	61.63	-0.65
Wholesale Trade	70.47	68.57	68.67	2.62
Retail Trade	186.47	185.07	182.87	1.97
Finance, Ins., and Real Estate	57.37	56.57	57.07	0.53
Services	208.43	204.03	201.50	3.44
Federal Government	26.67	26.67	27.43	-2.79
State and Local Government	176.40	175.47	165.13	6.82

SOURCES: BLS, Ks. Dept. of Human Resources.

TABLE FOUR: QUARTERLY KANSAS RETAIL SALES SUBJECT TO SALES TAX

	1988 Q2	1988 Q1	1987 Q2	%Change From 1987 Q2
Sales - Mil. $				
Apparel	112.18	128.03	108.01	3.86
Automotive	876.03	720.76	775.54	12.96
Food	1006.59	981.87	1013.29	-0.66
Furniture	263.11	229.29	202.73	29.79
General Merchandise	663.58	767.53	671.69	-1.21
Lumber and Building Materials	312.32	274.20	305.03	2.39
Prof. and Pers. Service	254.80	228.85	224.78	13.36
Public Utilities	200.55	221.09	195.52	2.57
Unclassified	403.24	392.11	385.67	4.56
Farm and Garden Products	5.19	4.91	3.79	37.07
Manufacturing and Trading	270.07	227.09	239.34	12.84
Miscellaneous	26.98	23.34	18.06	49.40
Total	4389.34	4179.18	4126.36	6.37

NOTE: Retail sales figures are based on sales tax collections. Actual and reported retail sales may vary.

SOURCES: Ks. Dept. of Revenue.

TABLE FIVE: QUARTERLY PERSONAL INCOME IN KANSAS*

	1988 Q1	1987 Q4	1987 Q1	% Change From 1987 Q4	% Change From 1987 Q1
A. Personal Income					
Total - Mil. $	38612	38404	36503	2.18	5.78
Nonfarm Income - Mil. $	36589	36385	34797	2.26	5.15
Farm Income - Mil. $	2023	2019	1705	0.79	18.65
Average Weekly Earnings, Mfg.** - $	412	408	406		1.58
B. Earnings by Industry, in Millions					
Nonfarm	25193	25055	23961	2.22	5.14
Farm	2023	2019	1705	0.79	18.65
Manufacturing	5299	5188	4738	8.84	11.84
Durable Goods	3429	3284	2913	18.87	17.71
Nondurable Goods	1869	1904	1824	-7.15	2.47
Mining	388	390	354	-2.04	9.60
Contract Construction	1502	1629	1658	-27.72	-9.41
Trans. and Public Utilities	2204	2199	2119	0.91	4.01
Wholesale Trade	1852	1825	1775	6.05	4.34
Retail Trade	2541	2485	2413	9.32	5.30
Finance, Ins., and Real Estate	1615	1587	1512	7.25	6.81
Services	5187	5209	4943	-1.68	4.94
Federal Government	714	716	711	-1.11	0.42
State and Local Government	675	656	630	12.10	7.14

*Seasonally adjusted, at annual rates
**Not seasonally adjusted.

SOURCES: BEA, Ks. Dept. of Human Resources.

TABLE SIX: MONTHLY KANSAS AGRICULTURAL INDICATORS

	1988 June	1988 May	1987 June	%Change From 1987 June
Prices Received *				
All Farm Products - 1977 = 100	171	164	149	14.77
All Crops - 1977 = 100	147	121	102	44.12
Wheat - $/Bu.	3.26	2.78	2.30	41.74
Sorghum Grain - $/Bu.	4.17	2.95	2.80	48.93
Corn - $/Bu.	2.72	2.03	1.83	48.63
Soybeans - $/Bu.	8.24	7.53	5.35	54.02
All Hay - $/Ton	70.00	64.00	50.00	40.00
Livestock and Products - 1977 = 100	186	191	179	3.91
All Beef Cattle - $/Cwt.	71.30	73.10	66.20	7.70
Steers and Heifers - $/Cwt.	72.60	74.70	67.40	7.72
Calves - $/Cwt.	81.80	91.90	77.00	6.23
Hogs - $/Cwt.	44.60	46.30	55.40	-19.49
Milk - $/Cwt.	11.00	11.10	11.90	-7.56

*Not seasonally adjusted.

SOURCE: Ks. Crop and Livestock Reporting Service.

TABLE SEVEN: QUARTERLY EMPLOYMENT AND SALES FOR SMSAs AND COUNTIES

Area	1988 Q2	1988 Q1	1987 Q2	%Change From 1987 Q2
A. Wichita SMSA				
Civilian Labor Force - Tho.	257.04	253.85	251.09	2.37
Employed - Tho.	245.40	239.94	238.70	2.81
Unemployed - Tho.	11.64	13.91	12.39	-6.07
Rate - %	4.53	5.47	4.93	
Retail Sales - Mil. $	848.48	829.01	820.19	3.45
B. Kansas Portion of Kansas City SMSA				
Civilian Labor Force - Tho.	324.07	320.88	317.71	2.00
Employed - Tho.	310.66	304.25	303.47	2.37
Unemployed - Tho.	13.41	16.53	14.24	-5.81
Rate - %	4.13	5.17	4.47	
Retail Sales - Mil. $	1023.87	999.63	989.07	3.52
C. Topeka SMSA				
Civilian Labor Force - Tho.	94.22	92.45	90.09	4.57
Employed - Tho.	90.58	87.74	86.22	5.06
Unemployed - Tho.	3.64	4.71	3.88	-6.15
Rate - %	3.90	5.10	4.30	
Retail Sales - Mil. $	339.28	315.74	307.19	10.44
D. Lawrence SMSA				
Civilian Labor Force - Tho.	40.76	40.31	39.47	3.26
Employed - Tho.	39.30	38.66	38.03	3.34
Unemployed - Tho.	1.45	1.65	1.44	1.18
Rate - %	3.60	4.10	3.67	
Retail Sales - Mil. $	109.77	105.12	103.41	6.15
E. Riley County--Manhattan Area				
Civilian Labor Force - Tho.	28.15	27.86	27.39	2.78
Employed - Tho.	27.19	26.67	26.45	2.76
Unemployed - Tho.	0.97	1.19	0.93	3.25
Rate - %	3.43	4.27	3.43	
Retail Sales - Mil. $	58.42	59.17	52.13	12.08
F. Reno County--Hutchinson Area				
Civilian Labor Force - Tho.	32.01	31.39	31.48	1.68
Employed - Tho.	30.52	29.51	29.42	3.74
Unemployed - Tho.	1.49	1.88	2.06	-27.74
Rate - %	4.67	6.00	6.53	
Retail Sales - Mil. $	100.01	96.28	98.40	1.64
G. Crawford County--Pittsburg Area				
Civilian Labor Force - Tho.	17.70	17.38	17.37	1.87
Employed - Tho.	16.79	16.19	16.39	2.47
Unemployed - Tho.	0.90	1.18	0.98	-8.20
Rate - %	5.10	6.80	5.67	
Retail Sales - Mil. $	44.22	43.66	42.78	3.37
H. Lyon County--Emporia Area				
Civilian Labor Force - Tho.	19.99	19.91	19.60	1.97
Employed - Tho.	19.13	18.87	18.80	1.73
Unemployed - Tho.	0.86	1.05	0.80	7.62
Rate - %	4.33	5.27	4.07	
Retail Sales - Mil. $	50.81	49.31	50.90	-0.17
I. Saline County--Salina Area				
Civilian Labor Force - Tho.	27.62	27.16	27.40	0.81
Employed - Tho.	26.39	25.56	25.77	2.42
Unemployed - Tho.	1.23	1.60	1.63	-24.69
Rate - %	4.43	5.90	5.93	
Retail Sales - Mil. $	101.52	95.67	97.32	4.31
J. Barton County--Great Bend Area				
Civilian Labor Force - Tho.	14.95	14.58	15.36	-2.67
Employed - Tho.	14.18	13.68	14.11	0.49
Unemployed - Tho.	0.77	0.90	1.25	-38.47
Rate - %	5.13	6.17	8.10	
Retail Sales - Mil. $	60.05	57.06	53.80	11.61
K. Montgomery County--Coffeyville Area				
Civilian Labor Force - Tho.	18.31	18.06	18.03	1.58
Employed - Tho.	17.24	16.83	16.87	2.20
Unemployed - Tho.	1.07	1.23	1.16	-7.39
Rate - %	5.83	6.80	6.43	
Retail Sales - Mil. $	52.88	50.75	51.65	2.39

SOURCE: Ks. Dept. of Human Resources, Ks. Dept. of Revenue.

TABLE EIGHT: QUARTERLY BANKING ACTIVITY IN KANSAS*

Federal Reserve Member Banks	1988 Q2	1988 Q1	1987 Q2	%Change From 1987 Q2
Kansas, in Millions				
Total Deposits	36604.0	35916.7	33347.0	9.77
Total Checkable	6232.3	6217.3	6031.2	3.33
Demand Deposits	3089.7	3117.7	3097.9	-0.27
Other Checkable	3142.7	3099.7	2932.5	7.17
Small Time and Savings	25039.0	24160.7	22825.0	9.70
Large Time	5332.7	5538.7	4491.2	18.74
Kansas City, KS, in Millions				
Total Loans	1765.97	1735.67	1649.21	7.08
Real Estate	902.93	884.47	803.80	12.33
Commercial and Industrial	552.07	539.07	503.15	9.72
Consumer	102.20	100.40	105.46	-3.09
Total Deposits	1943.53	1905.97	1780.93	9.13
Demand Deposits	233.23	228.93	236.27	-1.29
Time and Savings	1085.17	1053.17	986.49	10.00
Topeka, in Millions				
Total Loans	370.33	345.73	322.17	14.95
Real Estate	107.93	105.73	100.49	7.41
Commercial and Industrial	138.20	123.97	111.41	24.05
Consumer	76.10	64.37	47.85	59.04
Total Deposits	523.63	534.33	522.00	0.31
Demand Deposits	172.70	174.77	165.72	4.21
Time and Savings	221.27	228.40	225.54	-1.90
Wichita, in Millions				
Total Loans	1286.20	1240.30	1248.75	3.00
Real Estate	250.30	241.73	229.98	8.84
Commercial and Industrial	489.30	468.40	511.14	-4.27
Consumer	396.00	371.37	350.71	12.92
Total Deposits	1868.83	1879.57	1822.75	2.53
Demand Deposits	450.17	455.83	462.80	-2.73
Time and Savings	930.17	942.83	904.24	2.87

*The data above pertain only to Federal Reserve member banks of Kansas and do not represent all commercial banking in the state. Since 1980, these data have covered approximately 50 percent of the state's banking activity.

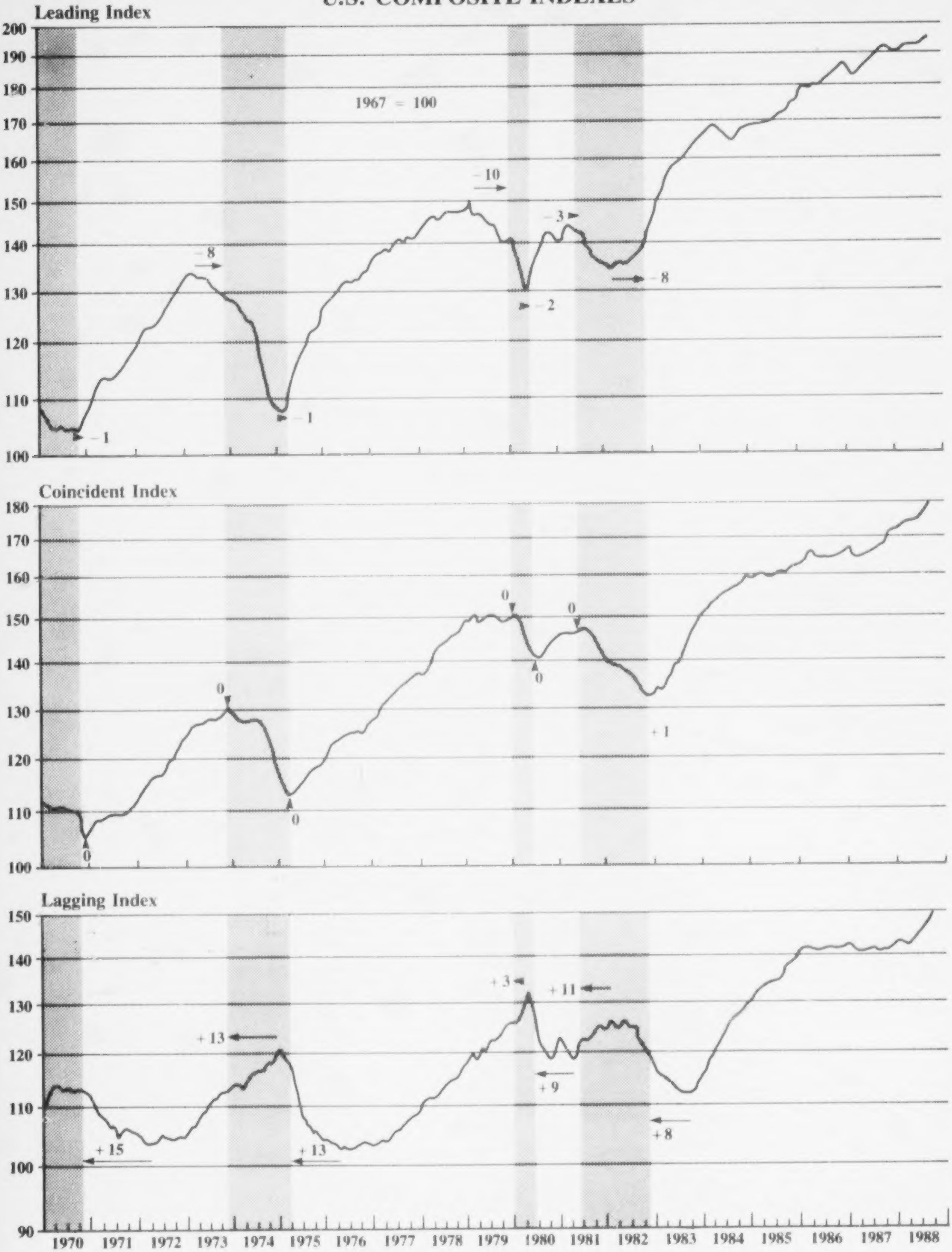
SOURCE: Federal Reserve Bank of Kansas City.

TABLE NINE: QUARTERLY SAVINGS AND LOAN ACTIVITY IN KANSAS

Area	1988 Q2	1988 Q1	1987 Q2	%Change From 1987 Q2
A. Kansas, in Millions				
Total Assets	21864.17	20831.30	19154.43	14.15
Mortgage Loans	14623.47	14706.87	14240.47	2.69
B. Kansas City, KS, in Millions				
Total Assets	2466.67	2231.50	2212.40	11.49
Mortgage Loans	1922.53	1742.60	1650.50	16.48
C. Topeka, in Millions				
Total Assets	3204.50	3117.13	2931.47	9.31
Mortgage Loans	2785.13	2680.97	2479.37	12.33
D. Wichita, in Millions				
Total Assets	1679.73	1765.23	1628.80	3.13
Mortgage Loans	1312.53	1288.00	1212.93	8.21

SOURCE: Federal Home Loan Bank of Topeka.

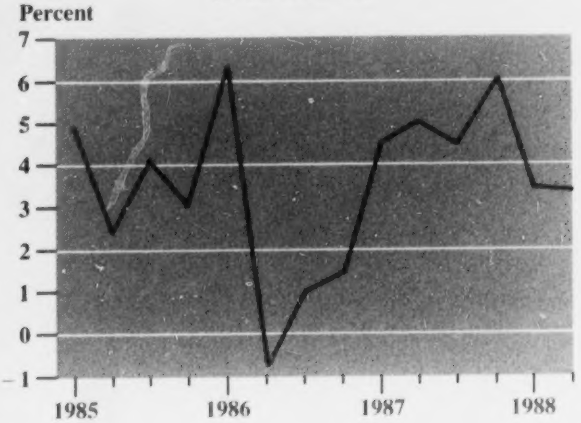
U.S. COMPOSITE INDEXES



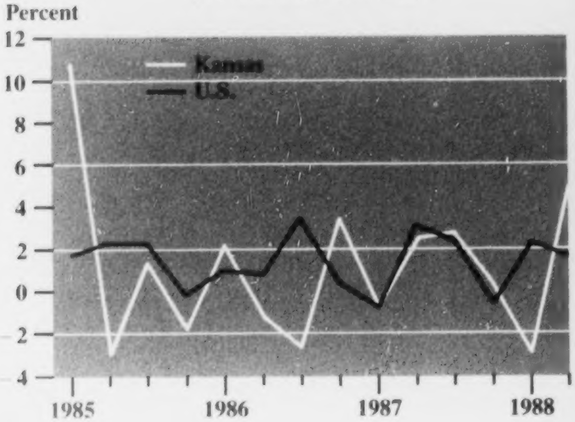
Source: Bureau of Economic Analysis, *Business Conditions Digest.*

Note: Numbers entered on the chart indicate length of leads (−) and lags (+) in months from reference turning dates.
Shading indicates periods of recession.

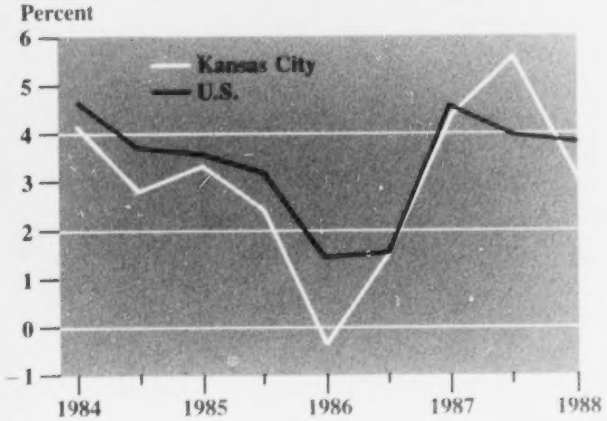
Average Annual Growth Rate of GNP
(1982 Dollars)



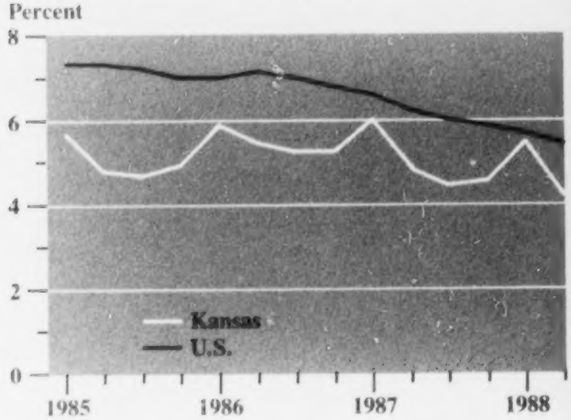
Growth of Retail Sales
(In Current Dollars)



Rate of Inflation
(CPI-U, Seasonally Adjusted)



Civilian Unemployment Rate



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Winter 1988-1989
Economic Outlook Issue

KANSAS BUSINESS REVIEW

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The purpose of the *Kansas Business Review* is to provide a forum for the dissemination of research studies and reports in the fields of economics and business that would be of special interest and relevance to business persons, public officials, and academicians in Kansas and the Plains Region.

The Editorial Review Board welcomes submissions of original manuscripts as well as reports on research and opinion pieces. The style, however, should emphasize exposition rather than technical details. All submissions will be reviewed initially by the editorial staff and, when judged appropriate, will be sent to referees who are knowledgeable about the content.

Manuscripts for consideration should be typed, double-spaced, and submitted in triplicate. In general, length should not exceed three thousand words.

Submit manuscripts to: Editor, *Kansas Business Review*, The Institute for Public Policy and Business Research, 607 Blake Hall, The University of Kansas, Lawrence, Kansas 66045-2960.

We invited economists from each of the Regents' universities to share their forecasts for 1989 with our readers.

1989 Outlook for Kansas and the Nation

Norman Clifford

Norman Clifford is director of the Kansas Econometric Model and an assistant professor of economics at the University of Kansas. Funding for the Kansas Economic Modeling Program at the Institute is provided by the State of Kansas.

Introduction

The national economy will continue to grow in 1989, although at a slower rate than it did during a surprisingly strong 1988. Although the main engines of 1988 growth, nonresidential investment spending and export growth, will continue to drive the economy in 1989, they will exert a more moderate influence than they did last year. A tight money supply, brought about by the Federal Reserve Board's continuing concern over inflation, will cause interest rates to rise throughout the year. Continued moderate economic growth will cause the already low unemployment rate to fall even further, dipping slightly below 5 percent during the later part of the year. A tightening labor market will cause inflation to accelerate modestly to 5.2 percent.

The U.S. forecast summarized in Table 1 is based on the Indiana University Econometric Model of the United States. The following major assumptions were imposed on that model:

1. The Federal Reserve Board will pursue a restrictive monetary policy, with M2 growing 4 percent in 1989.
2. Real federal government purchases of goods and services will decline slightly in 1989. There will be no major changes in taxes in 1989.
3. The dollar will continue to depreciate slightly, about 3 percent in 1989.
4. The real growth rate of the other OECD countries will average 3 percent in 1989.[1]
5. Imported oil prices will remain essentially unchanged in the coming year.

The Kansas forecast, summarized in Table 2, is based on the Institute's Kansas Econometric Model and on the

Table 1
U.S. Forecast

	1985	1986	1987	1988	1989
Real GNP (billions of 1982 dollars)	3,619	3,722	3,847	3,994	4,087
Percent change	3.4	2.9	3.4	3.8	2.3
Rate of inflation (change in CPI)	3.5	1.9	3.7	4.1	5.2
Civilian employment (millions)	107.3	109.7	112.6	115.1	117.8
Percent change	2.0	2.3	2.6	2.2	2.4
Unemployment rate	7.1	6.9	6.1	5.4	4.9
3-month rate, T-bills	7.5	6.0	5.8	6.6	8.5
Personal income (billions of dollars)	3,325	3,531	3,780	4,057	4,387
Percent change	7.0	6.2	7.1	7.3	8.1
Real disposable income (billions of 1982 dollars)	2,543	2,641	2,686	2,780	2,845
Percent change	3.0	3.9	1.7	3.5	2.3

national forecast given above.

The Kansas economy will mirror the U.S. economy, growing in 1989, but more slowly in most areas than in 1988. In addition, the Kansas economy will grow more slowly than the U.S. economy, a trend that has been evident throughout the decade. For example, employment growth in the United States between 1982 and 1988 averaged 2.4 percent per year, while in Kansas it averaged 1.6 percent. Similarly, personal income growth averaged 7.2 percent per year for the United States and 5.6 percent for Kansas for the period.

The manufacturing sector of the Kansas economy will outperform the rest of the state's economy. Kansas personal income in current dollars will grow 5.7 percent, slightly above 1988's 5.3 percent, but after adjustment for inflation it will grow only 0.5 percent, somewhat less than its 1.1 percent growth rate for 1988. These are the main themes of the forecast produced this quarter at the Institute for Public Policy and Business Research at the University of Kansas.[2]

National Forecast

The national economy exhibited surprisingly strong growth in 1988 with the effects of the October 1987 stock market crash both milder and shorter lived than many economists expected. Based on actual data for the first three quarters and a forecast for the fourth quarter, we expect the 1988 growth rate of real gross national product to be 3.8 percent. The national economy should cool down somewhat in 1989, however, with our forecast calling for 2.3 percent GNP growth in 1989.

The national economy will grow more slowly this year because of slower growth in aggregate demand. One of its components, consumption spending, will grow 1.8 percent in 1989 compared to 2.7 percent in 1988, mostly because consumers will be spending less on durable goods. The demand for consumer durables will fall 0.6 percent in 1989 after growing 4.3 percent during 1988. The two weakening components are automobile sales and household durables. Spending on new cars, dampened by a slowdown in disposable personal income growth as well as higher interest rates, will fall 4.7 percent in 1989, as compared to a 5.1 percent increase in 1988. Spending on furnishings and household equipment will level off after growing at a robust 6.1 percent in 1988. Spending on durable goods in other categories will actually grow 1.6 percent in 1989, about one-third faster than the previous year.

Consumer spending on services will grow 2.8 percent in 1989, down slightly from 1988 growth of 3.4 percent. An exception to the general trend of reduced spending on services is spending on electricity and gas, which will increase 5.7 percent in 1989, up from 4.1 percent growth in 1988.

Consumer spending on nondurable goods will grow 1.4 percent in 1989, as compared to 1.0 percent in 1988. The fastest growing components of nondurable goods will be spending on clothing and shoes, which will grow 2.9 percent in 1989 as compared to only 0.3 percent in 1988, and spending on gasoline and oil, which will increase 4.6 percent in 1989 after growing 1.4 percent in 1988. Spending on food will increase only 0.3 percent in 1989 after increasing 0.6 percent in 1988, while spending on fuel oil and coal will decrease 3.8 percent in 1989 after increasing 4.5 percent in 1988. Spending on all other nondurable goods will increase 1.9 percent in 1989 after growing 2.1 percent in the previous year.

A second major component of aggregate demand, investment spending, will also grow more modestly in 1989 than it did in 1988, but it will retain its position as one of the main forces for economic growth. Nonresidential fixed investment will grow 7.5 percent in 1989 as compared to 10.3 percent in 1988. Although the growth in nonresidential investment spending will be inhibited somewhat by higher interest rates in 1989, it will still remain strong, in part due to continuing high capacity utilization rates. Investment in equipment will increase 10.0 percent in

Table 2
Kansas Forecast

	1985	1986	1987	1988	1989
Total employment (thousands)	1,176.0	1,169.0	1,205.0	1,222.3	1,233.7
Percent change	3.8	-0.6	3.1	1.4	0.9
Wage & salary employment (thousands)	967.9	984.7	999.6	1,017.4	1,029.1
Percent change	0.7	1.7	1.5	1.8	1.1
Unemployment rate	5.0	5.4	4.9	4.6	4.7
Nominal personal income (millions of dollars)	33,855	35,667	37,450	39,439	41,698
Percent change	6.5	5.4	5.0	5.3	5.7
Real personal income (millions of 1982 dollars)	30,326	31,191	31,344	31,674	31,829
Percent change	3.1	2.9	0.5	1.1	0.5

1989 compared to 14.4 percent in 1988, whereas investment in nonresidential structures will increase 0.3 percent in 1989 after declining by 0.3 percent in 1988. Investment in residential structures is expected to increase by 0.8 percent in 1989 after falling by 2.2 percent in 1988.

A third major component of aggregate demand, net exports, will also contribute to economic growth in 1988. Real export demand, which grew 17.6 percent in 1988, will continue to exhibit strong growth in 1989, although at a slower 7.0 percent rate, driven by healthy economic growth in the other OECD countries as well as the slight decline in the value of the dollar.

Spending on real imports will grow 4.8 percent in 1989, compared to 7.9 percent in 1988. This reduction in the rate of growth of spending on imports will come about mainly from reduced auto imports. Spending on auto imports will fall 14.6 percent in 1989 after falling 6.6 percent in 1988. Imports of oil and petroleum products will grow 4.2 percent in 1989 compared to 9.4 percent in 1988. Spending on all other categories of imports will increase 6.3 percent in 1989 after growing 8.8 percent in 1988.

Exports growing faster than imports means that the deficit in net exports will shrink by a further $6.8 billion in 1989, following a 1988 decline of $31.3 billion.

The final major category of aggregate demand, government purchases of goods and services, will grow 1.7 percent in 1989 after remaining flat in 1988. Federal government purchases will decline 0.1 percent in 1989 after falling 3.3 percent in 1988. Federal defense purchases will decline 1.6 percent for the second straight year, while nondefense purchases will grow 4.8 percent after falling 8.7 percent in 1988. State and local government purchases will increase 3.0 percent in 1989 compared to 2.7 percent in 1988.

Interest rates will be higher in 1989 than they were in 1988 because the Federal Reserve Board will not allow money supply growth to keep up with inflation. Not only will the average for typical interest rates be higher than it was in 1988, but rates will continue to increase throughout the year; slight easing by the Fed as the year progresses will not be sufficient to completely eliminate the upward pressure on interest rates. The period of slowest growth in the money supply will have been the fourth quarter of 1988, with M2 growth of only 2.7 percent (annual rate). During 1989, M2 growth will gradually accelerate, from 3.9 percent annual growth in the first quarter to 4.5 percent in the last quarter. In real terms, the money stock will be falling throughout 1989: The GNP deflator, one measure of inflation, will grow from 4.7 to 5.3 percent (annual rates) during the year. The forecasted path of selected interest rates is shown in Figure 1.

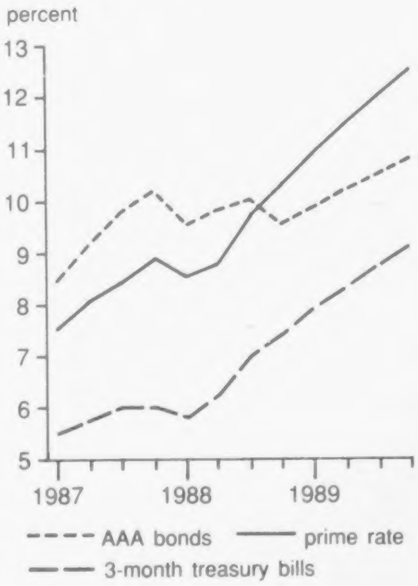
The unemployment rate will decline gradually in 1989. Although the economy is growing slowly, employment will grow a little faster than the labor force. Nonagricultural establishment employment will grow 2.9 percent in 1989 after growing 3.5 percent in 1988. The national unemployment rate will decline from 5.4 percent in 1988 to 4.9 percent in 1989. Tightness in the labor market, perhaps coupled with growing inflation, will cause wages to grow faster in 1989 than in the two previous years. The average hourly wage in private nonfarm employment will increase 5.8 percent in 1989 as compared to 4.9 percent in 1988 and 4.6 percent in 1987.

Increased pressures from the cost side will cause a modest increase in inflation in 1989. The inflation rate, as measured by the rate of change in the consumer price index, will be 5.2 percent in 1989 compared to 4.1 percent in 1988. With real GNP growing a little more slowly than potential output, there appears to be little demand-side inflationary pressure. Indications of cost-side pressure are bigger wage increases and lower productivity in 1989 than in 1988. This is reflected in the forecast for increased inflation in 1989.

The largest consumer price increases in 1989 will be in food and medical care. Food prices, in part because of the lingering effects of the drought, will increase 7.5 percent in 1989 following a more modest 4.4 percent increase in 1988. Medical care prices will increase 7.7 percent in 1989 after rising 6.7 percent in 1988 because consumers will spend 9 percent more for medical commodities and 7.4 percent more for medical services in 1989. Prices for products in the "other" category, which includes personal care, personal and educational expenses, and tobacco and smoking products, will also increase 7.5 percent in 1989 following a 6.9 percent increase in 1988.

Housing, apparel, transportation, and entertainment prices will increase moderately in 1989. Housing costs will increase 4.6 percent in 1989 following a 3.7 percent increase in 1988. The main increase in housing costs will come from a 5.4 percent increase in the cost of shelter, while costs of fuel and utilities and household furnishings and operations will increase 2.9 percent and 3.8 percent respectively. Transportation costs will increase 4.2 percent in 1989, following a 3.1 percent increase in 1988. The price of entertainment will increase 4 percent in 1989 following a 4.3 percent increase in 1988. Apparel and upkeep prices will show a very modest 1.5 percent increase in

Figure 1
Interest Rates

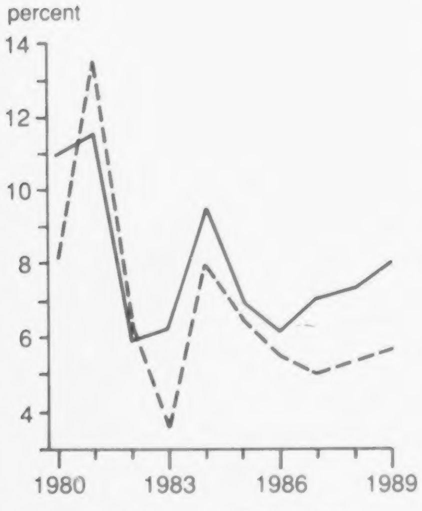


1989, after increasing 3.7 percent in 1988.

Personal income in current dollars will grow 8.1 percent in 1989, following a 7.3 percent increase in 1988. These figures may be misleading, however, since much of the increase is offset by inflation. In real terms personal income will increase 2.8 percent in 1989 as compared to 3 percent in 1988. Real disposable personal income will grow substantially more slowly in 1989 (2.3 percent) than it did in 1988 (3.5 percent) due to a 5.4 percent increase in real personal tax and non-tax payments to the federal govenment. This increase in tax and non-tax payments comes about through a 3.0 percent increase in real taxable income and a 0.5 percentage point increase in the average federal personal tax rate.

The 2.3 percent growth in real disposable income coupled with the 1.8 percent increase in real consumption expenditure leads to a slight increase in the personal saving rate, from 4.0 percent in 1988 to 4.5 percent in 1989. Figure 2 shows the pattern of personal income growth since 1980.

Figure 2
Personal Income Growth



Kansas Forecast

The Kansas economy will grow more slowly than it did in 1988 and more slowly than the national economy in 1989. As Figures 2 and 3 illustrate, Kansas's lagging behind the nation has been the trend in recent years. Kansas personal income will grow 5.7 percent in 1989, compared to 8.1 percent for the nation. Real Kansas personal income will increase 0.5 percent compared to 2.8 percent for the United States.

Kansas nonfarm wage and salary employment will grow 1.1 percent in 1989, compared to 2.9 percent for the nation, and total civilian employment in Kansas will grow 0.9 percent, compared to 2.4 percent in the nation. Unemployment in Kansas will average 4.7 percent, compared to 4.9 percent for the United States. Figure 4 contrasts the forecasts for unemployment in Kansas and the nation.

Compared to Kansas figures for last year, nonfarm wage and salary employment and civilian employment will grow more slowly, but since labor force growth will slow, unemployment will only increase slightly.

Table 3 summarizes Kansas employment growth forecasts by sector. Employment growth in the manufacturing sector will outperform employment growth in the rest of the Kansas economy, growing 2.0 percent in 1989, down somewhat from its healthy 2.8 percent growth in 1988.

Reflecting the national consumption trends, Kansas employment in nondurable goods production will be stronger in 1989, growing 2.1 percent compared to a rather weak 0.8 percent in 1988, while Kansas employment in durable goods will grow 2.0 percent in 1989, down significantly from its 4.2 percent 1988 growth rate.

Among the nondurable goods producing sectors, printing and publishing will be strongest in 1989, with 900 new jobs, a 5.2 percent increase. Employment in food and kindred products will grow only 0.8 percent, while employment in chemicals and allied products will decline 0.1 percent. Employment in apparel and petroleum and coal products manufacturing will decline

Figure 3
Employment Growth

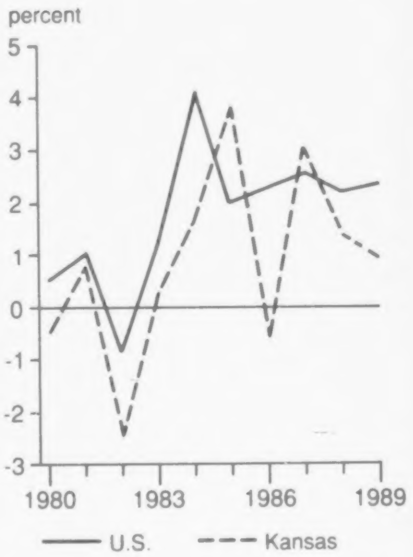
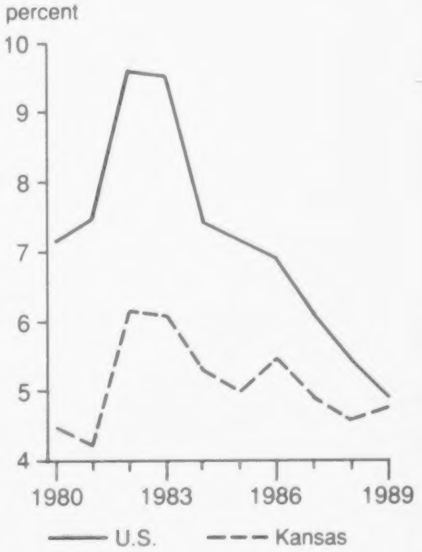


Figure 4
Unemployment Rates



significantly, falling 2.4 percent and 4.7 percent respectively. Employment in all other nondurable goods manufacturing, about one sixth of the total, will grow a healthy 4.8 percent.

Among the durable goods producing sectors, primary metals and stone, glass, and clay producers will stand out. Employment for stone, glass, and clay will make a strong comeback, growing 4.6 percent after declining 3.6 percent in 1988. Manufacturing of primary metals is forecasted to perform even better, with employment growing 9.9 percent. Also exhibiting strong 1989 growth will be producers of fabricated metals and machinery. Employment growth for fabricated metals will be 2.8 percent, and for machinery it will be 2.9 percent. Employment growth in transportation equipment manufacturing, which makes up over two-fifths of the durable goods manufacturing total, will grow only 0.8 percent in 1989, which is well below its 3.6 percent growth in 1988.

Among the nonmanufacturing sectors, only employment in services is expected to exhibit above average growth at 2.2 percent, and even so this growth rate is down significantly from the 3.5 percent employment growth posted by this sector in 1988. Employment in finance, insurance, and real estate will grow only 0.8 percent, slightly less than in 1988, with employment in banking and insurance actually declining. Employment in wholesale trade will grow 0.5 percent, down from 1988's 2.7 percent. Employment in retail trade will grow 0.4 percent, down from 1.9 percent in 1988, with employment in general merchandise stores, auto dealers and gas stations, and apparel and accessory stores declining slightly, and employment in food stores and other retail trade sectors increasing 1.5 percent.

Employment in transportation and public utilities will level off in 1989 after falling 0.8 percent in 1989, with employment in railroads continuing to fall, and employment in trucking and warehousing exhibiting modest growth. Employment in mining, which is mostly oil and gas extraction in Kansas, will fall 4.1 percent after remaining flat in 1988. Construction employment will partly rebound, growing 1.4 percent following a 5.4 percent decrease in 1988. Both federal and state and local government employment in Kansas will increase 0.9 percent in 1989, compared to a 2.9 percent drop in federal government employment and a 2.0 percent increase in state and local government employment in 1988.

Kansas personal income in current dollars will grow 5.7 percent in 1989, compared to 5.3 percent in 1988. After adjusting for inflation,[3] however, Kansas personal income will grow only 0.5

Table 3
Kansas Employment Forecasts by Sector (in thousands)

	1985	1986	1987	1988	1989
Mining	16.7	12.2	11.5	11.5	11.0
Percent change	-6.7	-26.8	-6.3	0.1	-4.1
Construction	42.3	43.9	44.4	42.1	42.6
Percent change	-2.9	3.7	1.3	-5.4	1.4
Durable goods manufacturing	102.1	102.6	102.4	106.7	108.8
Percent change	-3.0	0.5	-0.2	4.2	2.0
Nondurable goods manufacturing	72.3	73.1	73.5	74.1	75.7
Percent change	1.6	1.1	0.6	0.8	2.1
Transportation & utilities	63.9	62.7	61.4	61.0	60.9
Percent change	-0.3	-1.9	-1.9	-0.8	0.0
Wholesale trade	67.2	67.1	68.0	69.9	70.2
Percent change	0.0	-0.1	1.3	2.7	0.5
Retail trade	176.0	180.6	183.4	186.9	187.7
Percent change	2.2	2.6	1.5	1.9	0.4
F.I.R.E.	52.8	54.7	56.4	57.0	57.5
Percent change	2.9	3.5	3.1	1.2	0.8
Services	185.8	193.7	200.8	207.9	212.3
Percent change	1.7	4.3	3.6	3.5	2.2
Government	188.7	194.1	197.8	200.4	202.2
Percent change	1.9	2.9	1.9	1.3	0.9

percent, compared to 1.1 percent in 1988. Kansas wages and salaries in current dollars will grow 5.3 percent, about the same as in 1988. Dividends, interest and rents will grow 8.9 percent in 1989 compared to 7.3 percent in 1988, in part reflecting 1989's higher interest rates. Nonfarm proprietors' income will grow 7.0 percent, transfer payments will grow 6.4 percent and other labor income will grow 6.0 percent. However farm proprietors' income, mainly because of the lingering effects of the drought, is expected to fall 4.1 percent.

Notes

1. Organization for Economic Cooperation and Development. Member nations are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Holland, Iceland, Ireland, Italy, Japan, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

2. The forecasts of the national economy are produced by the Econometric Model of the United States using assumptions generated at the Institute. This model was developed at the Center for Econometric Model Research at the University of Indiana, R. Jeffery Green and Morton J. Marcus, directors. The Kansas forecasts are produced by the Kansas Econometric Model, which is a product of the Institute for Public Policy and Business Research.

3. Since there is no price deflator for Kansas, we use the U.S. Personal Consumption Deflator to deflate Kansas income.

The 1989 Kansas and U.S. Economic Forecasts

M. Jarvin Emerson

Dr. Emerson is a professor in the Department of Economics at Kansas State University. The material for this article was prepared by him for *The Governor's Report on the State of the Kansas Economy.* The forecasts were made during October 1988 and are the basis for state government revenue forecasts by the Consensus Revenue Estimating Group.

The pace of the U.S. economy will slow during 1989, but a recession is not in the immediate forecast. Moderate growth will be accompanied by a rising rate of inflation. This slowdown will produce little real economic growth for the Kansas economy as the state's employment growth will drop below 1 percent.

The National Economy

Capacity constraints and more restrictive monetary policy will slow the rate of growth of the U.S. economy. Inflation will heat up and the unemployment rate will edge up.

The aggregate forecasts for the national economy, summarized in Table 1, include a 2.4 percent increase in real gross national product compared with a 3.9 rate in 1988, a 5 percent inflation rate versus a 4.2 percent price rise in 1988, and an increase in the unemployment rate to 5.7 percent from 5.5 percent.

A smaller increase in real disposable income, smaller employment increases, higher interest rates, and rising prices will combine to reduce the growth of consumer spending in 1989. After a 2.6 percent rise in real personal consumption in 1988, the rate of increase in 1989 will fall to 1.5 percent. Since this component represents about 65 percent of GNP, its slowdown will have a significant dampening effect on the overall growth rate. After a strong surge in the first half of 1988, the expansion in consumer spending for durable goods, largely discretionary spending, has slowed to a nominal pace. For 1989 it is expected that lower automobile sales will result in a small decline in the value of real durable purchases by consumers. Likewise there will be little additional discretionary spending for services.

Capital expenditures and exports will remain the primary thrust for continued economic expansion. Real investment spending for equipment will increase at a slower but strong rate. The 1989 growth in investment spending on equipment will be about 7 percent compared with about 15 percent in 1988. Neither residential nor nonresidential construction will expand,

Table 1
1989 U.S. Forecasts

	Percent Change
GNP (constant dollars)	2.4
Personal income (current dollars)	7.1
Consumer price index	5.0
Unemployment (monthly average)	5.7

and they will probably decline further if interest rates move higher.

The depreciation of the dollar, which has returned much of the competitiveness of U.S. products in international markets, and continued solid growth in the international economy will produce strong export growth again in 1989. Real exports are expected to increase 12 percent with the strongest growth coming from capital goods and consumer goods. Capital goods exports have been experiencing a short-run surge in demand in Europe in anticipation of the 1992 unification of the European Economic Community. Exports of food and feed are forecast to decline as a result of the 1988 summer drought, which reduced supplies and raised relative prices of some major export crops.

With the exception of petroleum, the import of goods will continue to decline in 1989. The behavior of oil imports will depend on the longevity of a new OPEC agreement reached in late 1988. The price of oil appears to be headed higher, probably not to the OPEC target of eighteen dollars a barrel, but significantly above 1988 levels.

After a decline in 1988, federal government spending in real terms will rise 3.5 percent in 1989. Such an increase will occur in spite of the efforts to reduce the federal deficit, the major impact of which will not be felt until 1990.

Inflation will continue to escalate reaching a 5 percent pace in 1989. Capacity has been reached in several industries, productivity increases have slowed, and unit labor costs will jump. The Federal Reserve is expected to pursue a restrictive monetary policy in order to hold the rate of inflation to the 5 percent level. If oil prices rise dramatically, however, price level increases may be greater.

A softer economy will generate fewer jobs and the unemployment rate will edge up to 5.6 percent. Cyclically sensitive industries such as durable goods and construction will be most responsible for the increases in unemployment.

Several factors loom as risks to the moderate growth scenario presented above. First, financial markets continue to pose a threat to economic stability. The large international, federal, and consumer debt accumulation poses challenges not previously experienced. Second, the length of the current expansion suggests to some that its end is imminent. The duration of an expansion is usually much shorter. Third, in an effort to keep inflation in control, the Federal Reserve may tighten credit excessively and cause a recession. Fourth, a rapid escalation of oil prices could bring a return of the problems of the 1970s.

The Kansas Economy

The growth of the Kansas economy in real terms will slow to a crawl in 1989. Income growth will barely exceed inflation and employment growth will be minimal.

As indicated in Table 2, employment will increase less than 1 percent in 1989 following a pattern of weaker growth that began in the second half of 1988. The unemployment rate will rise to 4.9 percent.

The two sectors with the greatest growth potential are manufacturing and mining. Durable goods manufacturing will continue to benefit from strong capital goods and export demand. Kansas manufactured exports have had above average sensitivity to exchange rate movements in the past, and the recent improvement suggests that this relationship has not changed. Employment in durable goods manufacturing is forecast to rise by 3.6 percent. Higher oil and gas prices will spur development and increase employment by 5.3 percent over 1988. Prices for Kansas oil are expected to rise from $13.50 per barrel in 1988 to $14.50 per barrel in 1989. The price of gas is forecasted to be from $1.35 to $1.45 per thousand cubic feet over the same period.

Higher interest rates and a slowdown in the pace of the economy will retard the construction industry. Employment will again decline.

Deregulation effects will still be felt as the transportation industry reduces employment. Communications and electric, gas, and sanitary service employment gains will be at about the same pace as the overall state growth rate.

The wholesale and retail trade sectors will be adversely affected by smaller increases in disposable personal income, higher interest rates, and more rapid inflation. Services will continue to be the most rapidly growing sector in the state's economy, although reduced discretionary income will dampen its growth.

Improved conditions in agriculture and mining will mitigate some of the difficulties of banks and thrift institutions. Nevertheless, thrift institutions will continue to require restructuring.

As indicated in Table 3, Kansas personal income is forecast to increase at a 5.2 percent rate to $41.7 billion. With inflation forecast to be 5 percent, this implies little real economic growth for the Kansas economy in 1989. Wages and salaries, the major component of personal income, are expected to increase 5.5 percent, about the same rate as 1988. Other labor income will grow less rapidly at 4.8 percent. Although cash receipts are forecast to be higher for farm commodities in 1989, farm income will be lower because of reduced government subsidies and higher production costs. Kansas farm proprietors' income is expected to be 10.6 percent lower. The slowdown of the economy will reduce the increase of nonfarm proprietors' income to 4.5 percent. However, higher interest rates will produce nearly an 8 percent gain in the dividends, interest, and rent category.

Table 2
1989 Kansas Forecasts

	Percent Change
Gross state product	5.3
Personal income	5.2
Employment	0.9
Unemployment	4.9

The increasingly sophisticated forecasting models of the econometric and input-output type, widely used to make forecasts such as those appearing in this article, have been more successful in accurately forecasting the magnitude of change than in forecasting the direction of change. The turning points (recessions and recoveries) have been more difficult to forecast.

As an addition to the array of forecasting techniques for the Kansas economy, a Kansas Index of Leading Economic Indicators for October 1987 through October 1988 is presented in

Figure 1
Kansas Index of Leading Economic Indicators

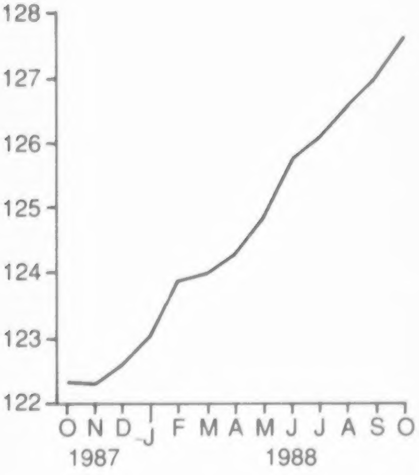


Table 3
Kansas Personal Income Forecast (millions of dollars)

	1988	1989	Percent Change
Wages & salaries	20,893	22,046	5.51
Other labor income	1,978	2,074	4.81
Proprietors' income			
Farm	1,691	1,511	-10.63
Nonfarm	3,169	3,310	4.46
Dividends, interest & rent	7,294	7,875	7.96
Transfer payments	5,453	5,803	6.42
Residence adjustment	896	949	5.88
Less: social insurance	-1,755	-1,892	7.83
Total	39,620	41,675	5.19

Figure 1. The index consists of seven components, six of which are specific to the Kansas economy. The components are

- *real wheat prices paid to Kansas farmers
- *real cattle prices paid to Kansas farmers
- *an index of stock prices of selected Kansas owned firms and firms with important operations in Kansas
- *housing units authorized for construction in Kansas
- *initial claims for unemployment insurance in Kansas
- *average weekly hours of nonsupervisory workers in manufacturing in Kansas
- *M2 measurement of the nation's real money supply.

The monthly series, which was constructed with data starting with January 1970, has successfully predicted most of the turning points in the Kansas economy. Three or four months of a change in sign in the index are required to signal a turning point.

Kansas Agricultural Outlook

James Mintert
William I. Tierney, Jr.
Allen M. Featherstone

James Mintert and William Tierney are Extension agricultural economists in marketing, and Allen Featherstone is an assistant professor of agricultural economics, all at Kansas State University.

Although other sectors of the Kansas economy have surpassed it in size, the agricultural sector is a vital component of the Kansas economy, still dominating economic activity in most Kansas counties. Income prospects for both crop and livestock farmers in 1989 are reasonably bright with returns expected to remain well above the depressed levels of the early 1980s. If average weather conditions prevail in 1989, returns will be nearly equal to those earned by Kansas farmers in 1988. Kansas farmland prices are expected to continue the recovery that began during 1987.

This overview of the 1989 Kansas agricultural economy is broken down into its two primary activities: livestock and crop production. Expected returns for crops and livestock are the basis for the Kansas land price outlook in the concluding section.

Livestock Outlook

Livestock is important to Kansas's agricultural economy. Since 1983, cash receipts from livestock and livestock products have ranged from 55 to 70 percent of all Kansas crop and livestock receipts, moving into the upper end of that range in 1986 and 1987. Cattle are by far the greatest revenue producers of Kansas's livestock sector, so the overall profitability of the cattle industry affects aggregate returns for Kansas agriculture much more significantly than returns earned by hog producers, which are also discussed. From 1983 through 1987, cash receipts from cattle and calves accounted for approximately 50 to 60 percent of all crop and livestock receipts. During the same period, hog production only generated 4 to 6 percent of Kansas farmers' cash receipts.

For many Kansas livestock producers 1988 was a year of great variability. During the first half of 1988, cattle feeders saw a continuation of the profitability that began in 1986, with some feeders earning more than a hundred dollars per head above variable costs. But many cattle feeders saw profits evaporate as the 1988 drought pushed feed grain prices sharply higher, and the cost of replacement feeder cattle edged upward in response to tight supplies.

Although profits on traditional feeding programs in feedlots declined sharply in the last half of 1988, cow-calf producers and stocker cattle operators benefited from the increases in calf and yearling prices that were beginning to squeeze the profitability out of cattle feeding.[1] Returns to most grazing programs were positive in 1988, and cow-calf producers profited from their second year of favorable returns, which came on the heels of several years of red ink in the early 1980s.

Profits for the majority of Kansas hog producers in 1988 followed the same path as those for cattle feeders—higher profits in the first half of the year followed by losses during much of the last half, as rising feed costs and declining hog prices took their toll.

Expectations are relatively optimistic for 1989. U.S. production of both pork and beef will probably decline from last year, pushing both cattle and hog prices upward. Figure 1 shows the forecasted price ranges for both hogs and cattle along with quarterly average prices from 1986 through 1988.

Increased feed prices following dry weather in 1988 are expected to slow the growth in the number of hogs for the first time since late 1986. The real impact of the slowdown is not expected until the second half of 1989. The amount of pork for sale during the first quarter will exceed supply for the first quarter of last year, but supplies should begin declining by the end of the second quarter. Per capita pork supplies (adjusted for population growth) during the first half of 1989 will be equal to or slightly less than they were in 1988, with cash hog prices averaging between forty-four and fifty dollars per hundredweight on the Omaha market. Pork supplies are likely to be lower in the second half of 1989 than they were during the third and fourth quarter of 1988, particularly if feed prices increase during the winter and early spring of 1989. Supplies could decline as much as 4 to 6 percent on a per capita basis during the last two quarters of 1989, a supply reduction that will likely lead to cash hog prices at Omaha averaging forty-six to fifty dollars during the third quarter dropping back to between forty-three and forty-six dollars during the fourth quarter.

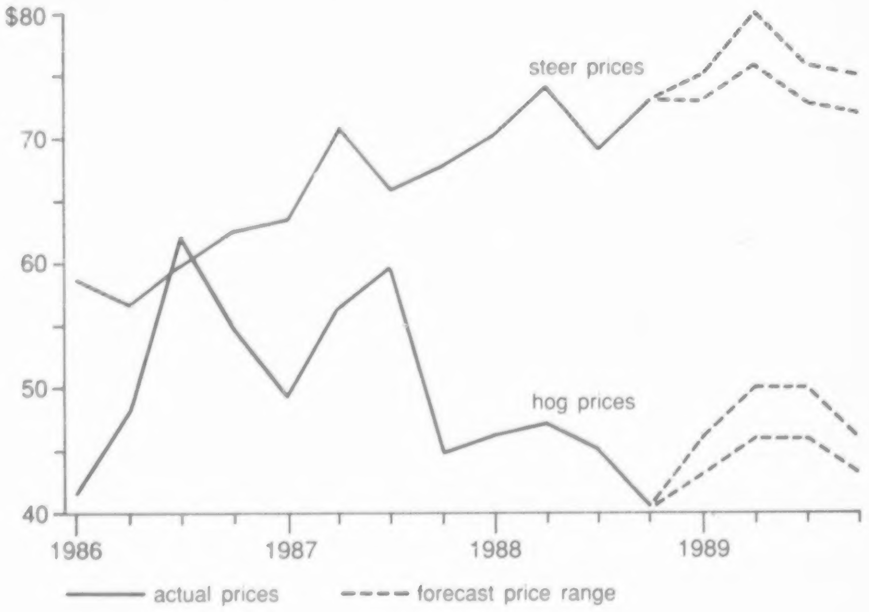
Unlike the supply of hogs, cattle supplies are expected to be below 1988 levels all year long.

Cattle slaughter during the first half of 1989 is expected to be 3 to 4 percent below the level during the first six months of 1988, as producers begin responding to the positive price signals of the last two years and start a modest rebuilding of the U.S. cattle herd.

If these slaughter projections are realized, fed steer prices in western Kansas are expected to average seventy-three to seventy-six dollars per hundredweight during the first quarter before rising to between seventy-six and eighty dollars per hundredweight during 1989's second quarter. Cattle slaughter during the last half of 1989 is expected to range from 3 to 5 percent below the same period last year. Third and fourth quarter fed steer prices in western Kansas are likely to average between seventy-two and seventy-six dollars per hundredweight. These supply and price projections assume that a modest rebuilding of the nation's cattle herd will begin in 1989. A continuation of dry conditions in many states in the plains and the western Corn Belt could hamper producers' expansion plans, however, leading to a larger slaughter than currently expected and, consequently, lower prices.

Kansas livestock profitability is expected to be about the same in 1989 as it was in 1988, although fluctuating feed prices could alter the picture significantly, particularly if adverse weather conditions damage feed grain and soybean crops. Current hog price projections indicate that most Kansas hog producers will be operating at or above break-even levels. Profitability is likely to peak during the middle of the year. Returns for many cattle feeders will be somewhat lower in 1989 than in 1988, particularly during the first half of the year, when both replacement feeder cattle and feed will be more expensive than they were a year ago. Returns to cow-calf producers will continue to be well above break-even levels as calf prices are expected to equal or surpass 1988 levels unless feed costs increase dramatically. Profitability of grazing programs could wind up somewhat below that of 1988 owing to the rising costs of calves and lightweight feeders.

Figure 1
Kansas Steer and Hog Prices, 1986-1989



Note: Steer prices shown are those offered by western Kansas meatpackers for 1,100 to 1,300 pound steers. Hog prices are those offered for 210 to 240 pound hogs in the Omaha market.

Source: Kansas State University Extension Agricultural Economics.

Crops Outlook

Projections for 1989 crop income for Kansas are based on the announced set-aside acreage required for participation in the federal government's 1989 wheat and feed grain programs. The major crops produced in Kansas (in order of their market value in 1988) are wheat, feed grains (corn and grain sorghum), hay, and soybeans. For each crop grown in Kansas, participation in government programs, yields, acreage harvested, market prices, and government payments must be forecasted.

To a large extent, Kansas farmers' crop income is insulated from changes in market prices. Farmers receive additional income from government price supports (the regular loan program), income supports (deficiency payments), and disaster relief payments, as well as payments for cropland placed in the ten-year Conservation Reserve Program (CRP). Wheat and feed grains generate nearly two-thirds of Kansas's crop income. Most Kansas wheat and feed grain producers comply with the government set-aside programs and are therefore eligible for deficiency payments. These payments rise in years when prices are low and fall in years when prices are high. Therefore, crop income varies mostly because of changes in the size of the government set-aside, although yields are also an important factor. In 1989, the government will permit farmers to plant nearly 25 percent more acres with wheat and 15 percent more acres with feed grains. Because of the relatively high prices prevailing today, some crop producers will stay out of the government program and sharply increase their acreage. Similar increases in acreage are expected in other states and, if national yields are in line with trend projections, the resulting increase in production could lead to much lower market prices in 1989.

The crop income forecasts for 1989 in Table 1 are based on the following assumptions:

1) the number of farmers participating in 1989 programs will be nearly the same as it was in 1988
2) the federal government will not change how acreage is earmarked for specific crops (both for set-aside and production) for farmers participating in federal programs
3) yields will conform to normal trends
4) reduced federal set-aside requirements for 1989 will result in expanded crop acreage, increased production, and lower market prices
5) government support and income payments will be higher.

The increases in overall production plus offsetting government income support payments should result in a 9 percent increase in Kansas gross crop income. Increases in input costs and interest rates in 1989 will not be large enough to offset increases in gross crop income. Therefore, net farm income is likely to be slightly larger in 1989 than in 1988. Additional good news for the state economy is that the increase in harvested crop acres of nearly 18 percent should result in significant increases in activity in the state's input supply and output processing industries.

Table 1
Estimated Kansas Crop Income

	1987	1988	1989
Acres harvested (x 000)	19,340	18,500	21,775
Acres enrolled in Conservation Reserve Program (x 000)	2,000	2,200	2,300
Market value of crops (x 000,000)	$2,420	$2,864	$2,934
Deficiency payments (x 000,000)	$1,063	$413	$627
Total crop income (x 000,000)	$3,483	$3,277	$3,561

Source: Kansas Board of Agriculture *1987 Farm Facts*, August 1988.

Agricultural Land Outlook

Land values in Kansas have stabilized over the past year, and in many areas of the state they have actually increased. Figure 2 illustrates average land values in Kansas for irrigated cropland, dry-land cropland, and pasture. The values are from actual sales data reported by members of the Kansas Society of Farm Managers and Rural Appraisers. From 1971 through 1980, Kansas land values increased, peaking in 1980. The decline in land values that began in 1981 continued for most of the next five years, apparently bottoming in 1987. Kansas nominal land values today are at about the same level as they were in 1973.

Regional land values are also shown in Figure 2. Land values in each region of the state peaked during 1980. Land values in the eastern, central, and western part of the state are roughly 40 percent, 45 percent, and 50 percent of their respective 1980 values. Land values in eastern Kansas bottomed during September of 1987. Land values in the western and central Kansas hit their low point during December 1986 and January 1987.

Between September 30, 1987, and September 30, 1988 values increased. The Federal Reserve Bank of Kansas City reported that Kansas land values went up 8.9 percent for irrigated cropland, 7.9 percent for dry-land cropland, and 9.1 percent for pasture during the twelve-month period. Given the income projections for crops and livestock, land prices are expected to increase slightly faster than the rate of inflation during 1989, with a land price increase of 5 to 8 percent likely.

Several factors could alter this land price forecast. Real (adjusted for inflation) interest rates, the rate of inflation, commodity prices, and Kansas rainfall merit special attention during 1989. A continued tightening of credit by the Federal Reserve would increase real interest rates and slow the increase in land values. However, if the economy continues to grow rapidly, and 1989's inflation rate turns out to be higher than the expected 3 to 5 percent, land values will grow faster. Within the agricultural sector, increasing commodity prices resulting from crop production problems in various regions around the world could have the greatest impact on Kansas land values, accelerating the growth in land prices. Finally, if last Fall's dry conditions continue in Kansas, then land prices may decline in the short term, reflecting the decline in net income associated with the drought.

Summary

Prospects for the Kansas agricultural economy in 1989 are reasonably bright, especially when compared to the early 1980s. Increases in crop acreage due to reductions in government set-aside requirements are likely to depress crop prices from current levels. However, government payments will offset most of the decline in market prices with Kansas farmers' gross crop income expected to increase because of the expanded production.

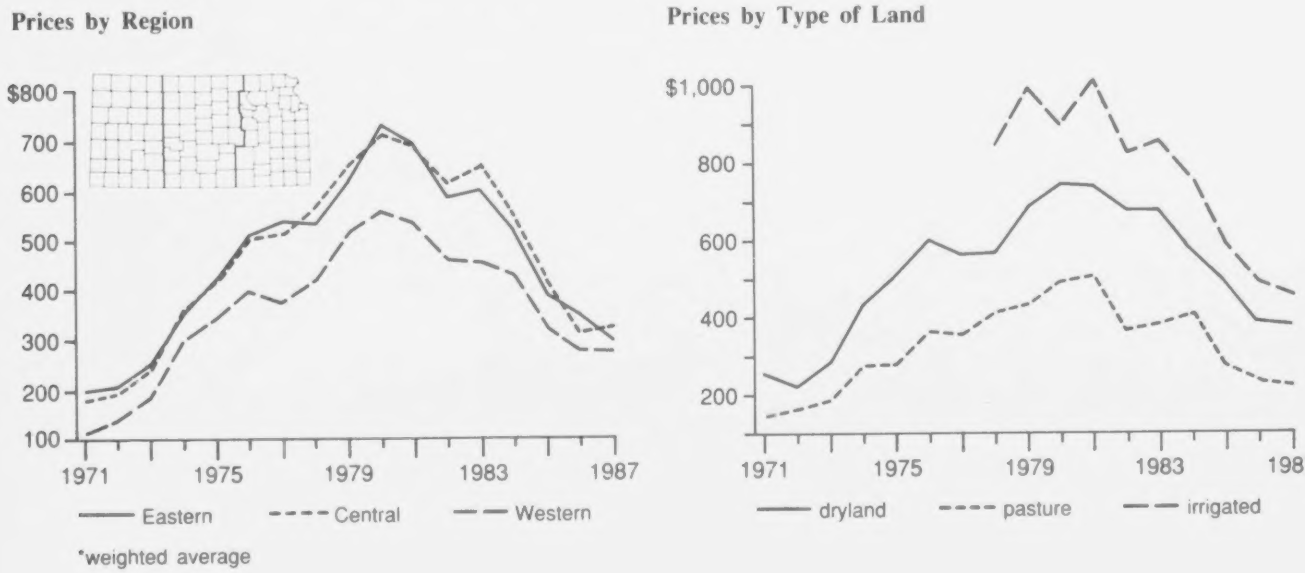
Returns for Kansas livestock are likely to be near those earned in 1988, although cattle feeding profits are expected to drop off somewhat as the impact of rising feed prices and higher feeder replacement costs are realized. Increasing returns to cow-calf producers in 1989 will offset a small portion of the decline in cattle feeding profitability as cow-calf operators reap the benefits of a modest rebuilding of the cattle herd. U.S. pork production is likely to fall below 1988 levels by mid-year as a result of the increasing feed prices brought about by the 1988 drought. As a result, Kansas hog producers profit prospects are reasonably good, with prices expected to be at or above break-even levels during much of the year.

Farmland prices are expected to increase in 1989 by 5 to 8 percent. However, increases in interest rates or a drought in Kansas would reduce the expected increase in land prices. A severe drought could even lead to a small decline in land prices. A sharp increase in inflation or commodity prices would increase the expected rate of growth in land prices. Overall, it is likely that land prices will increase during 1989.

Note

1. Cow-calf producers raise calves until they are old enough to wean. Then the calves are sold to stocker operators. Stockers sell yearling calves to feedlots.

Figure 2
Kansas Farmland Prices, 1971-1987
(dollars per acre)*



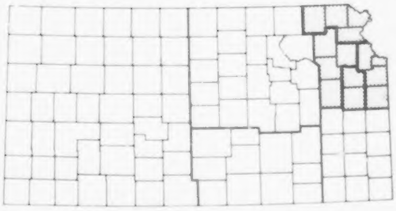
Prices by Region

Prices by Type of Land

*weighted average

Source: Kansas Society of Farm Managers and Rural Appraisers, Farmland Price Database.

Northeast Kansas
Diversity and Development



Robert Glass

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Introduction

Northeastern Kansas includes several diverse subregions that have followed different patterns of economic development in the twentieth century. For example, eight of the fourteen counties in this region had a higher population in 1900 than in 1980. Johnson County, which by 1980 had nearly 100,000 more people than the next largest county in the area, ranked eleventh out of the fourteen counties in 1900.

Four types of county economies in the region can be distinguished. First, in the northern border counties population is decreasing while the average age increases, and per capita income is growing more slowly than the state average. Second, Johnson and Wyandotte counties are part of the core of the Kansas City economy. Third, the Shawnee and Douglas county economies are dominated by large state institutions. The remaining counties are less populated counties, and they depend upon the larger urban economies nearby.

This characterization suggested the forecasting strategy for northeast Kansas. Based on the Kansas Econometric Model, subregional models were estimated for four county aggregations:

1. Northern Tier: Atchison, Brown, Doniphan and Nemaha counties;
2. Kansas part of the Kansas City area: Johnson, Leavenworth, Miami and Wyandotte counties;
3. Lawrence area: Douglas and Franklin counties;
4. Topeka area: Jackson, Jefferson, Osage, and Shawnee counties.

In general the forecast for northeast Kansas for 1989 is optimistic. All the subregions except the Topeka area will grow more quickly than the state in 1989. The ~~area that~~ includes Johnson and Wyandotte counties will grow fastest. Most sectors are expected to perform well, with the service sectors—wholesale and retail trade, finance, insurance, and real estate, and services—leading the way. One sector, however, is expected to decline in 1989: transportation, communications, and public utilities, and the employment growth rate for each subregion will be at or below the 1988 level.

In order to create these employment forecasts, models had to be constructed to describe the economies of the subregions. Any insight the models offered about the nature of the northeast Kansas economy will be given along with each 1989 subregional forecast. First the methods used will be discussed in general.

Model and Forecast Development

For each subregion a small, simple econometric model was developed to forecast the region's 1989 nonfarm wage and salary employment.[1] This data set was selected because it is relatively up-to-date, reliable, detailed, and comparable with data used for other models. The advantages of using these data outweigh the main disadvantage, which is that farm workers and self-employed people are not accounted for.

Seven variables were chosen to be forecasted in each region. These were manufacturing employment; mining and construction employment; transportation, communications, and public utility employment; wholesale and retail trade employment; finance, insurance, and real estate employment; services employment; and federal, state and local government employment. These seven variables add together to give total nonfarm employment. The linear equations for each variable were simultaneously estimated using Zellner's Seemingly Unrelated Regression estimation procedure. Each subregion was estimated separately.

The first step in constructing the model was to investigate whether employment for the whole state helped explain subregional employment. This first step was aided by the Granger-Sims causality test.[2] The second step was to construct subregional sectoral equations that included the equivalent sectoral employment variables for the state along with total state employment. The model was estimated to determine whether these parameters were significant. Where state variables failed, appropriate national variables were tested.

The model equations were solved simultaneously and the forecasts were generated using the national and Kansas forecasts, which begin on page one of this issue. Simulations were run to check the forecasting reliability of the models. For example, data from 1970 to 1984 were used to estimate the parameters and then a forecast was generated for 1985 to 1987. The "forecasts" of the past could then be compared with historical data. Using data from different years also provided a check on the consistency of the estimated parameter values. With a good model the forecast for a given year will usually not change very much if the researcher uses data from 1970 to

1984 instead of data from 1970 to 1986.

Table 1
Kansas City Area Employment Forecast* (in thousands)

	1987	1988	1989
Nonfarm wage & salary employment	265.8	279.2	289.1
Percent change	3.0	5.0	3.5
Manufacturing	37.1	39.0	40.0
Percent change	-7.4	5.1	2.6
Mining & construction	16.3	16.7	17.1
Percent change	5.6	2.5	2.4
Transportation & public utilities	17.9	18.9	18.8
Percent change	4.2	5.6	-0.5
Wholesale & retail trade	75.1	78.9	82.0
Percent change	5.8	5.1	3.9
F.I.R.E.	20.1	21.4	22.8
Percent change	7.2	6.5	6.5
Services	58.0	61.7	65.2
Percent change	5.7	6.4	5.7
Government	41.3	42.6	43.1
Percent change	1.4	3.1	1.2

*For Johnson, Leavenworth, Miami, and Wyandotte counties.

Kansas City Area

The economies of the counties in the Kansas part of the Kansas City area are quite different. Johnson County, by most measures is the wealthiest and fastest growing county in Kansas. In contrast, Wyandotte County's population has remained about the same since 1950. Annual per capita personal income in Johnson County from 1981 to 1986 ranged from 138 to 140 percent of the state level. In contrast, none of the other three counties' per capita personal income ever rose above 90 percent of the state average. Nevertheless, they are all part of the Kansas City metropolitan statistical area (MSA), so their employment data are aggregated together.

The 1987 actual figures, the 1988 estimated figures, and the 1989 forecasted figures for total nonfarm employment and the seven sectors are shown in Table 1. In both 1988 and 1989, employment in the Kansas counties of the Kansas City area is expected to grow more than three times more quickly than employment for the state. The drop in growth from 5.0 percent in 1988 to 3.5 percent in 1989 reflects the expected slowdown in the national economy. As Table 1 shows, the fastest growing sectors in 1989 are expected to be finance, insurance, and real estate, followed by services and then wholesale and retail trade. Employment in transportation, communications, and public utilities employment will actually decline, and the government sector will also be weak.

The Granger-Sims causality test found little interaction between the Kansas side of the Kansas City area and the rest of the Kansas economy. Figure 1 shows the lack of similarity in their growth patterns. According to the model, growing wholesale and retail trade employment depends solely on growth within the subregion. Growth in the finance, insurance, and real estate sector depends upon real growth in GNP; thus, the smaller growth rate in 1989 reflects the expected slowdown in the national economy. The decline in transportation, communications and public utility employment is due to slowing growth in corporate profits and in gross national product.

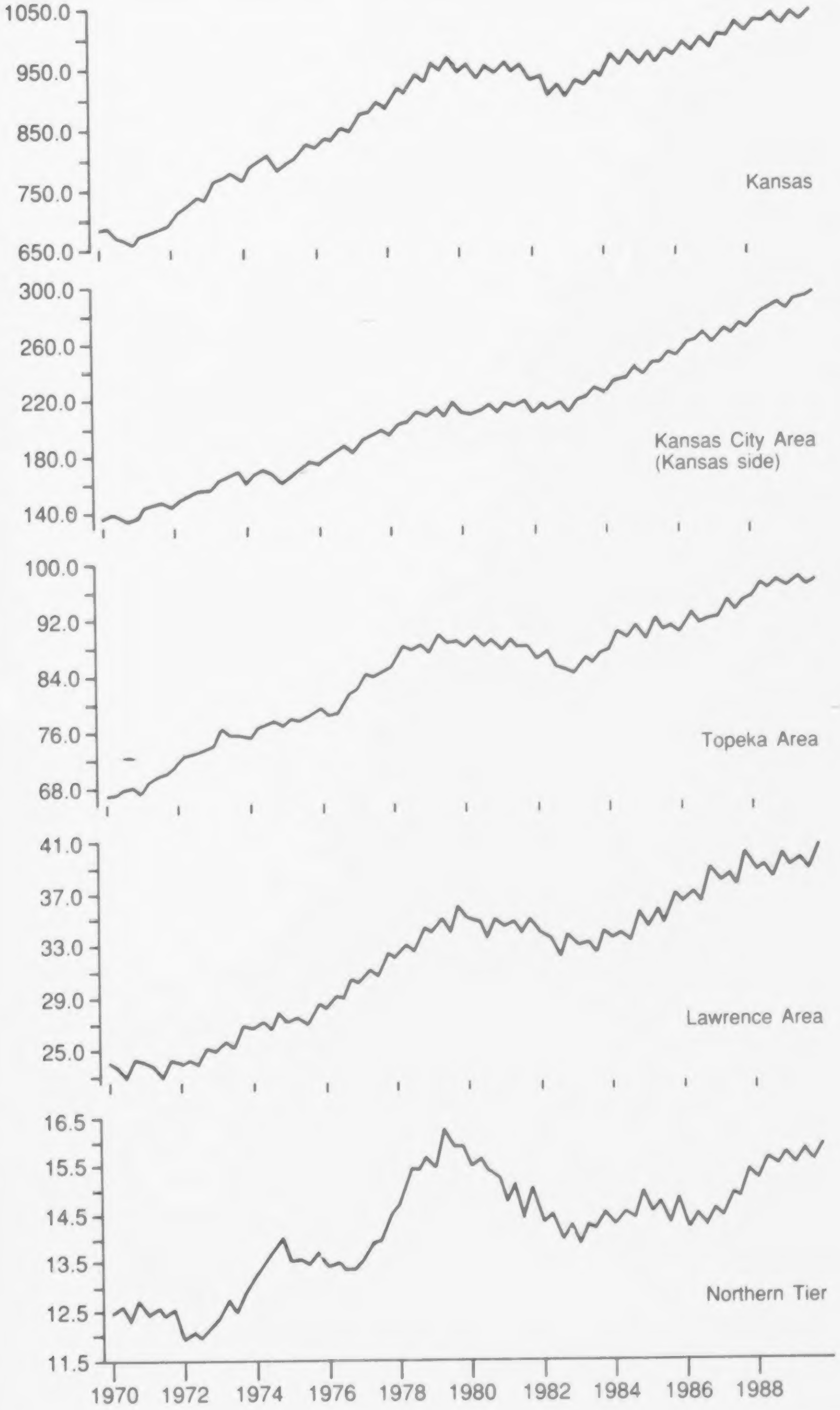
When the model was used to "forecast" eight historical quarters, mean errors were less than 1 percent. The model's worst forecast was for mining and construction, where it was off an average of 6 percent.

Northern Tier Counties

In contrast to the Kansas City area, the economies of the Northern Tier counties are relatively homogeneous. Population in each county has declined steadily since 1900, amounting to a 41.2 percent decline for the region. Annual per capita personal income for each of these counties between 1981 and 1986 was 70 to 90 percent of the state level. Only Nemaha County had a greater growth rate in personal income than the state average. Only Atchison County has a median age younger than the state average, and it is only slightly lower. Finally, these counties all have significantly lower crime rates and divorce rates than the state average. Superficially, the counties in the Northern Tier have similar demographic and economic characteristics.

The 1987 and 1988 estimates and the 1989 forecast are in Table 2. In 1989 employment in the Northern Tier counties will grow only a third as fast as it did in 1988, yet employment in the area will still grow more quickly than in Kansas because of slight growth in manufacturing and wholesale and retail trade. Note that because of

Figure 1
Northeast Kansas Employment (in thousands)



the lower level of economic activity in this subregion, rounding to hundreds of workers may have distorted the results slightly, especially when percent change is measured.

The structure of the model indicates that the level of activity in the state is more important to the Northern Tier than to any of the other subregions in northeast Kansas: The Northern Tier model has more Kansas explanatory variables than the other models, and causality tests show them to be significant. This is also indicated by Figure 1, which depicts the similar growth trends for Kansas and the subregion.

As with every subregion, however, wholesale and retail trade in the Northern Tier counties is dependent solely on economic activity within the subregion. Activity within the region also seems to have some effect on mining and construction employment.

The finance, insurance, and real estate sector of the Kansas City area proved to be a significant variable in forecasting the same sector in the Northern Tier. With this addition, errors in the Northern Tier "forecasts" were reduced by almost half, not just for the finance, insurance and real estate sector, but also for mining and construction employment.

The relationship shown between the Northern Tier and Kansas City area employment for other sectors depends on the period of the data used. If some of the early years are not included in the estimating procedure, then the Kansas City area appears to have a significant influence on the economy of the Northern Tier. But Kansas City data from 1970 through 1987 (other than those for finance, insurance, and real estate) show little relationship between the subregions. A number of different stories can be told to explain this phenomenon, but it is likely that the influence of the Kansas City area economy is increasing.

Lawrence Area

The social and economic profiles of Douglas and Franklin counties are significantly different, mostly because of the location of the University of

Kansas in Douglas County. Douglas County has had steady population growth throughout the twentieth century. Because of the university, Douglas County has the lowest median age of any county in Kansas. Also because of the university, Douglas County has had above average growth in personal income from 1981 to 1986 while its per capita personal income remained 80 to 82 percent of the state's average.

Franklin County has an economic profile similar to Miami County, which borders Franklin on the east. Franklin County's population declined until 1960, but since then it has increased. Its per capita personal income from 1981 to 1986 was between 85 and 88 percent of the state levels. Also during this period, personal income grew at a lower rate than the state average.

Estimates of 1987 and 1988 employment and the forecast for 1989 are in Table 3. The forecast for 1989 is a continuation of 1988 performance. The growth sectors are services, government, and manufacturing. The weakest sector is expected to be mining and construction, where employment will actually decrease. The decrease is associated with reduced construction activity, which will reduce not only construction employment, but demand for sand and gravel, a major component of the mining sector.

Lawrence area nonfarm employment levels appear to copy Kansas nonfarm employment trends in Figure 1. The causality test results confirm this observation. However, the similarity of the Kansas and Lawrence area economies does not reach down to the sectoral level.

Tests of the model indicate it forecasts very well, better than any of the other subregional models. Unfortunately, the values of parameters vary erratically when the period of estimation is altered slightly, indicating that this may be a case of a bad model forecasting very well.

Some of the problems with the model's structure may be in the aggregation of Douglas and Franklin counties. For a simple model to work, the counties should be similar or linked by a network of economic transactions. As we have already discussed, Douglas

Table 2
Northern Tier Employment Forecasts (in thousands)

	1987	1988	1989
Nonfarm wage & salary employment	14.9	15.5	15.7
Percent change	3.2	4.0	1.3
Manufacturing	2.8	3.0	3.1
Percent change	0.7	7.1	3.3
Mining and construction	0.5	0.5	0.5
Percent change	24.0	0.0	0.0
Transporation & utilities	0.9	0.9	0.9
Percent change	-2.7	0.0	0.0
Wholesale & retail trade	3.8	3.9	4.0
Percent change	7.0	2.6	2.6
F.I.R.E.	0.6	0.7	0.7
Percent change	9.0	16.7	0.0
Services	3.0	3.1	3.1
Percent change	1.5	3.3	0.0
Government	3.2	3.4	3.4
Percent change	1.0	6.2	0.0

Table 3
Lawrence Area Employment Forecasts (in thousands)

	1987	1988	1989
Nonfarm wage & salary employment	38.2	38.9	39.6
Percent change	2.9	1.8	1.8
Manufacturing	5.7	5.8	6.0
Percent change	-2.9	1.8	3.4
Mining and construction	1.7	1.7	1.5
Percent change	15.4	0.0	-11.8
Transporation & utilities	1.6	1.6	1.6
Percent change	0.5	0.0	0.0
Wholesale & retail trade	8.6	8.8	8.8
Percent change	3.8	2.3	0.0
F.I.R.E.	1.5	1.5	1.5
Percent change	14.0	0.0	0.0
Services	6.9	7.1	7.4
Percent change	6.2	2.9	4.2
Government	12.1	12.2	12.7
Percent change	1.0	0.8	4.1

and Franklin counties have dissimilar demographics and economic histories. In addition, data from *Journey to Work*, published by the Bureau of the Census in 1980, indicate that people from Franklin County are much more likely to work in the Kansas City area than in the Lawrence area.

Topeka Area

The Topeka area is a combination of the old (pre-1983) Topeka MSA and Jackson County. The Census Bureau's 1980 *Journey to Work* study reports that more than 10 percent of Osage and Jefferson counties' population commutes to Shawnee County for work. Jefferson County does have a large flow of commuters to Douglas County, but about three times more residents of Jefferson County commute to Shawnee County for work than to Douglas County. Jackson County also has more than 10 percent of its population commuting to Shawnee County for work.

The economic profiles of Jackson, Jefferson, and Osage counties are similar. Their populations declined from 1900 to 1970 and then began increasing. Their annual per capita personal incomes were 79 to 85 percent of the state average between 1981 and 1986. Shawnee County's annual per capita personal income for the same period was 105 to 109 percent of the state average.

The estimates for 1988 along with the 1989 forecast are in Table 4. After a strong year in 1988, growth in the Topeka area is expected slow in 1989 to less than the Kansas projected growth rate. The sectors expected to perform best in 1989 are services, government, and finance, insurance, and real estate. The weakest sector will be mining and construction, followed by transportation, communication, and public utilities.

The results of the causality tests for the Topeka area were rather surprising since they suggest that the Topeka area causes Kansas, not the other way around. This is probably not true. The reason the tests turned out as they did can be seen in Figure 1. Notice that on several occasions that an upturn or downturn in the Kansas economy occurs slightly after it has occurred in the Topeka economy. For example, the 1978 to 1980 hump in Kansas employment occurs slightly after the hump in Topeka employment.

Even if the causality test results reflect economic reality, they preclude the established procedure of using Kansas variables for the subregional model and then testing to see which variables are significant. As a result, Topeka's model is based more on a priori judgments concerning the structure of the subregion's economy than the other subregional models. The Topeka model assumes government employment drives Topeka's service industry. The projected growth in finance, insurance, and real estate is a reflection of the previous growth in the rest of the Topeka area economy. Declining transportation, communications, and public utility employment reflects the declining rates of growth of gross national product and national corporate profits, while the declining rate of growth of mining and construction reflects the national scenario of increasing interest rates along with slower growth of corporate profits.

Tests of the model indicate it forecasts within 1 percent of actual nonfarm employment. The only sector consistently well off the mark is manufacturing, which the model overestimates.

Conclusion

The growth of rural counties near metropolitan areas is one interesting phenomenon in northeastern Kansas. Since the beginning of the second half of the twentieth century, Franklin, Jackson, Jefferson, Miami, and Osage counties have reversed their trend of declining population—all of these counties are adjacent to metropolitan areas. In contrast, Atchison, Brown,

Table 4
Topeka Area Employment Forecasts (in thousands)

	1987	1988	1989
Nonfarm wage & salary employment	93.6	96.6	97.3
Percent change	2.5	3.2	0.7
Manufacturing	9.6	9.8	9.8
Percent change	-1.6	2.1	0.0
Mining and construction	4.1	4.3	4.1
Percent change	-1.1	4.9	-4.7
Transporation & utilities	7.1	6.9	6.8
Percent change	-2.1	-2.8	-1.4
Wholesale & retail trade	21.2	22.4	22.4
Percent change	3.9	5.7	0.0
F.I.R.E.	6.5	6.8	6.9
Percent change	4.7	4.6	1.5
Services	21.8	22.5	23.1
Percent change	3.4	3.2	2.7
Government	23.2	23.8	24.2
Percent change	-0.8	2.6	1.7

Doniphan, and Nemaha counties have continued their century-long decline in population—these counties are separated from metropolitan areas.

The metropolitan area economies are having a stronger, more direct impact on the nearby rural counties. For example, if the Kansas City area economy continues to expand, an interesting question is where the expansion will be. Some evidence points to Atchison County. Atchison County is now adjacent to the Kansas City MSA since Leavenworth and Miami counties were added to the MSA in 1983. The causality tests comparing the Kansas City area and Atchison County indicated that Kansas City's influence on Atchison County is already identifiable. Additionally, some anecdotal evidence suggests the City of Atchison's economy is showing renewed robustness. If the Kansas City area's economic influence on the Atchison County economy does increase, one would expect Atchison County to reverse its century-long trend of declining population.

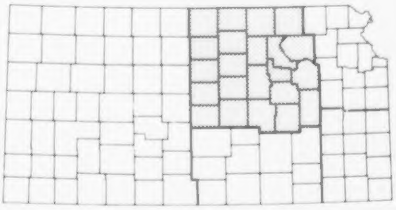
The example of Atchison County given above suggests that the economic relationships in northeastern Kansas may be too complex to be captured by using four separate subregional models. Additionally, the commuting patterns within northeastern Kansas indicate significant interaction between the three major economic centers of northeastern Kansas: Kansas City, Lawrence, and Topeka. The interactions among some of the rural areas and the metropolitan areas and the interactions among the different metropolitan areas suggest that more interdependence among the subregions should be incorporated in modeling northeastern Kansas.

The author would like to thank William Layes and Steven McAtee of the Department of Human Resources for providing employment data and Judy Fiester for helping to develop and organize the data base for this article.

Notes

1. Data are from the Kansas Department of Human Resources.

2. The particular form of the test was a regression analysis with six lags of the endogenous variable and six lags of the exogenous variable. The F-test was used to determine whether the parameters of the lagged exogenous variable was significantly different from zero. When the parameters were not zero, the variable was assumed to be exogenous.



North Central Kansas
The Region Follows the State

Robert B. Catlett
Arthur J. Janssen

Robert Catlett and Arthur Janssen are both assistant professors of economics at Emporia State University.

Historically the economic fluctuations in north central Kansas are surprisingly close to the state's. These similarities allow us to use the forecasts generated by the Kansas Econometric Model to project employment and income in the region.

Figure 1 shows how closely total employment patterns in north central Kansas have followed state patterns. However, since the early 1980s the number of wage and salary workers has declined in the region and grown in the state. Growth in total employment in the region has nevertheless equaled state growth because of nonfarm self-employment, which has grown faster in north central Kansas than it has in the state.

As Figure 2 shows, per capita income has increased steadily in the state and the region. Over the past decade, however, north central Kansas has fallen further behind the rest of the state. By 1986, per capita income for each county in the region was below the state level, although in several counties the difference was negligible.

When we examine employment and income measures of various sectors in north central Kansas, we find that regional growth rates are lower than state rates in almost every case. This holds for agriculture services, construction, transportation, wholesale and retail trade, services, finances, and government.

The notable exception has been manufacturing. North central Kansas has not followed the national decline in manufacturing. Manufacturing in north central Kansas has grown significantly faster than in state or the nation in terms of both personal income and employment.

Manufacturing is the fastest growing sector in the region, but it is not the largest. The government sector leads in income and employment, followed by services. Manufacturing fol-

Economic Indicators for Kansas and North Central Kansas

Figure 1
Employment (in thousands)

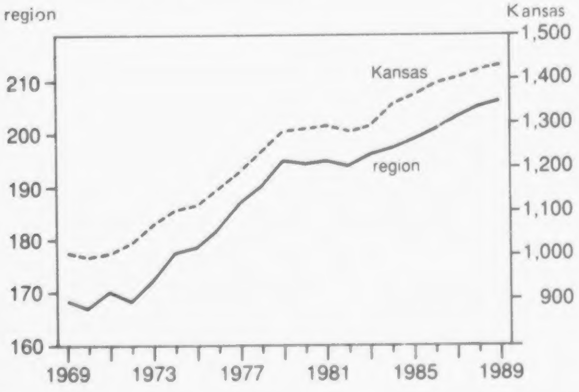


Figure 2
Per Capita Income

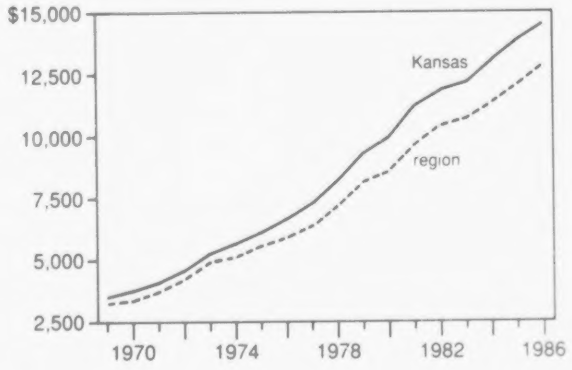


Figure 3
Population (in thousands)

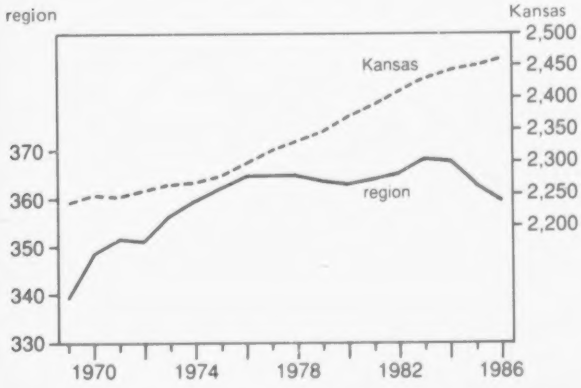
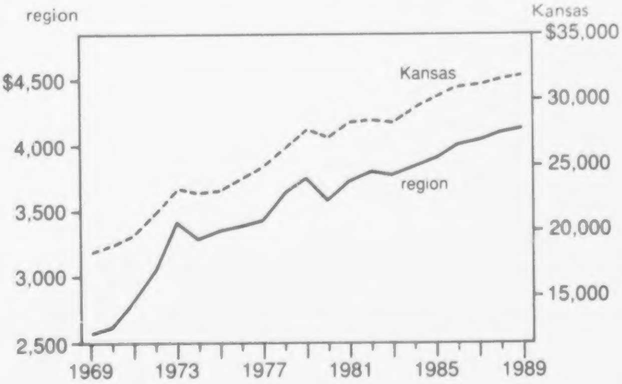


Figure 4
Real Personal Income (millions of 1982 dollars)



Source: Calculated using data from the Bureau of Economic Analysis and the Kansas Econometric model.

lows retail trade and agriculture in employment, but personal income from manufacturing is greater than from agriculture or retail trade. Table 1 shows the industrial mix of the region in 1986 compared with 1969, the first year for which we have data.

Figure 3 shows another interesting divergence between the region and the state: since 1983, population in north central Kansas has declined, while the state's population has continued to increase. And for most of the counties in north central Kansas, the median age is greater than 30.1, the median age for the state. Geary, Lyon, Riley, and Saline counties, which include Kansas State University and Fort Riley, are exceptions.

Outlook

In 1989, employment and income growth in north central Kansas will continue to lag behind the state.

Figure 1 includes employment projections. Since the ordinary least squares estimates indicated auto-correlation, a first order auto-regressive model was used to project employment:

regional employment =
79265.487 + .0888779 x state employment
(14.6) (19.9)

$\rho = .3524$ (1.27) $R^2 = .986$
1969-1986

Using employment levels forecasted by the Kansas Econometric Model, employment in 1989 in north central Kansas is estimated to be 206,306. The employment growth rate will be 0.5 percent, which is slower than the long term trend of 1.2 percent.

Both historical and projected values for real personal income are given in Figure 4. Note that personal income includes unearned income like transfer payments, dividends, and interest.

As with employment, the ordinary least squares model for personal income indicated a problem with autocorrelation, so a first order auto-regressive model was estimated:

$$\text{real regional income} = 900082.27 + .1018518 \times (\text{real Kansas income})$$
$$(3.08) \qquad (9.419)$$

$$\rho = .5735353 \qquad R^2 = .973$$
$$(3.16) \qquad \text{1969-1986 (base year is 1982)}$$

Using the projections from the state forecast, the estimated level of income for the region for 1989 is $4,132,278 thousand (in 1982 dollars). This represents growth of 0.8 percent, well short of the long-term regional average of 2.2 percent growth per year.

Note

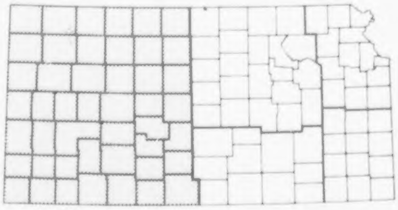
Income and employment data from 1969 to 1986 are from the Bureau of Economic Analysis. Income data were deflated using the personal consumption deflator (1982 = 100). The recent data are derived from the Kansas Econometric Model.

Table 1
North Central Kansas Employment and Income Mix

	Employment		Income	
	1986	1969	1986	1969
Government	26.3%	32.2%	18.5%	23.6%
Services	19.9	14.7	11.2	10.4
Retail trade	14.5	15.0	6.1	9.9
Agriculture	9.9	15.0	6.1	9.8
Manufacturing	9.1	5.8	8.8	6.1
F.I.R.E.	5.1	3.7	2.7	3.0
Construction	4.7	4.7	4.0	5.1
Transportation	4.1	4.3	4.8	5.3
Wholesale trade	3.7	2.4	3.1	2.9
Mining	1.7	1.1	0.6	0.7
Total	99.0	98.9	65.9*	76.8*

*The sectoral breakdown does not include unearned income or transfer payments. Unearned income grew from 13.1 percent in 1969 to 20.3 percent in 1986. Transfer payments increased from 10.8 percent to 15.7 percent over the same period.

Western Kansas
Sluggish Growth for 1989



Bill Rickman
Jack McCullick

Bill Rickman is chairman of the Department of Economics/Finance, and Jack McCullick is dean of the School of Business at Fort Hays State University.

Introduction

In western Kansas, as in Kansas in general and in other midwestern states, the economy continues to suffer from low growth rates, and the region has not fully shared in the most recent expansion in the U.S. economy.

Growth in real Kansas personal income has lagged that of the United States. The Institute for Public Policy and Business Research at the University of Kansas forecasts 0.48 percent growth in real Kansas personal income for 1989. This essentially flat growth pattern suggests that the difficulties in agriculture, oil production, and manufacturing that have contributed to sluggish growth will continue.

This article focuses upon economic trends in the forty-six westernmost counties in Kansas. Trends in employment, farm income, and retail sales are analyzed, followed by a brief examination of the status of the petroleum industry and its impact on western Kansas.

Employment

The most recent labor force and employment data for 1988 suggest a potential reversal in the labor force demographics of western Kansas. Although its size remains below pre-1986 levels, the labor force grew by 7.2 percent to 173,500 between October 1987 and October 1988. During the same period, employment also grew 7.2 percent, an increase of 11,928 jobs. The equal percentage changes in the labor force and in employment have left the unemployment rate virtually unchanged at slightly greater than 3 percent. The upturn in employment may signal a modicum of success with respect to economic development efforts by western Kansas governmental units and modestly improving conditions for agriculture.

The favorable employment data

from October 1988 should be interpreted with caution. Figures for January, April, and July of 1988 show employment decline in western Kansas compared with the same months in 1987. Average levels were lower by 3,485 workers, or 2.3 percent.

Figure 1 shows labor force statistics for western Kansas. In southwest Kansas, employment levels in 1988, taken at three-month intervals, did not increase above 1987 levels except in October, when employment grew 5.6 percent. In fact employment for 1988 would have decreased 1.6 percent without employment growth in October.

Employment trends in northwest Kansas counties mirror those in southwest Kansas. Specifically, employment in January, April, and July was lower than it had been the year before. The average difference between these three months in 1988 and the same months in 1987 was 3.2 percent. Then employment for October 1988 was 10.3 percent higher than it had been a year earlier.

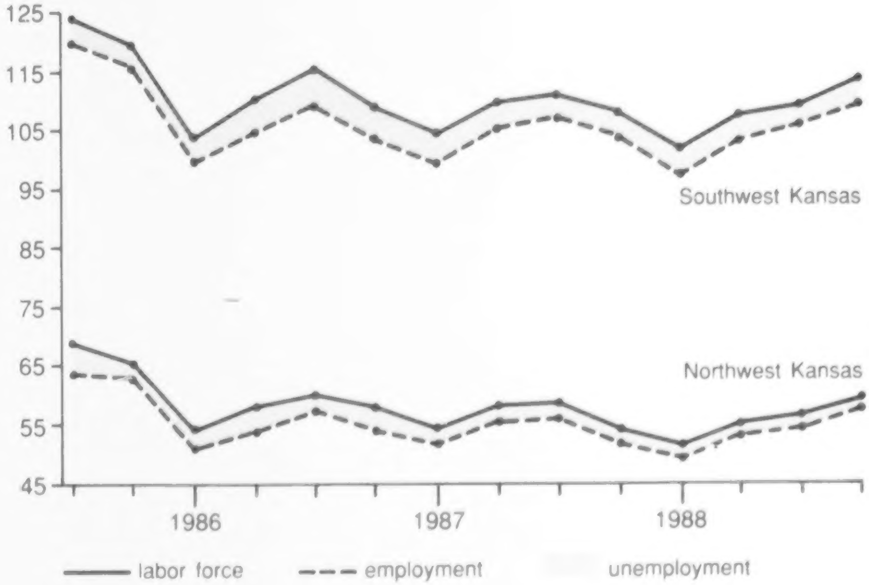
October 1988 employment growth was not uniform across counties. A cluster of five southwest counties (Finney, Ford, Hodgeman, Gray, and Haskell) accounted for approximately 25 percent of the total employment growth in the forty-six western counties. On the other hand employment in counties driven by oil and gas, such as Ellis and Barton, continued on a flat or negative growth path.

Economic forces in western Kansas for 1989 are not likely to alter employment levels significantly. For Kansas as a whole, forecasted growth in total employment in 1989 is a very modest 0.91 percent, while farm employment, a dominant employment source in western Kansas, is projected to decline by 8.44 percent. Therefore, the positive change in October employment in western Kansas may represent an aberration, if not in direction, at least in rate.

Farm Income

The dominant economic base of western Kansas is agriculture, a sector mired by numerous problems for more than half a decade. However, 1987

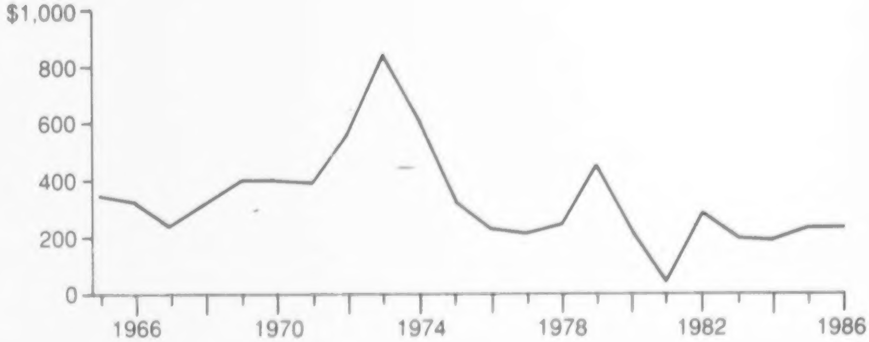
Figure 1
Western Kansas Employment and Labor Force (in thousands)*



*Monthly averages for January, April, July, and October.

Source: Kansas Department of Human Resources, *Kansas Laborforce Estimates*, (published monthly).

Figure 2
Western Kansas Farm Income (in millions of 1967 dollars)



Source: *Kansas Economic Report*, 1965-1986, prepared by Kansas State University and the University of Kansas.

ushered in a turnaround, reversing trends of rising farm bankruptcies and falling land values, commodity prices, and farm income. Figure 2 illustrates the volatility over time in real farm income in the sixty westernmost Kansas counties. This volatility in farm income underscores the inherent risks associated with nature, uncertainty with respect to domestic farm policies, and political intervention in international commodity markets.

Farm income in 1989 will reflect the net effects of several conflicting influences. The positive forces of higher commodity prices, dollar devaluation, and reduced farm debt may be offset by drought. And federal farm subsidies may be reduced in response to mounting concern over the high cost of farm programs and the federal deficit. Results from the Kansas Econometric Model indicate that farm income in 1989 will decrease by 4.32 percent.

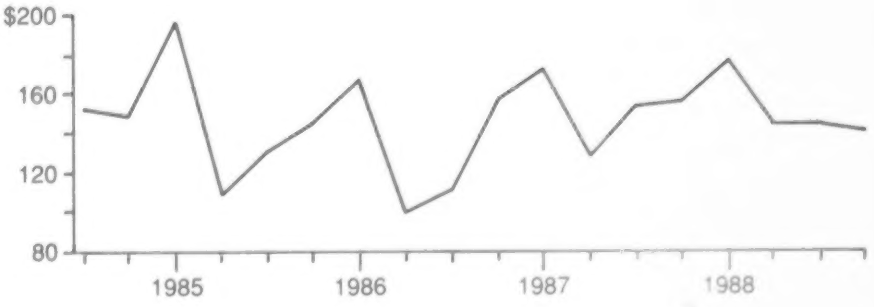
Retail Sales

Retail sales can be viewed as an indicator of local or regional economic activity. Estimates of retail sales for western Kansas between October 1984 and October 1988 are reported in Figure 3. These estimates are from sales tax collection data, so they underestimate the actual level of retail sales (some are tax exempt) but nevertheless show trends.

Initially it should be noted that eight counties (Barton, Ellis, Finney, Ford, Pratt, Russell, Seward, and Sherman), or 17 percent of the forty-six counties, generated 64 percent of the total retail sales volume for the region. In all eight counties October retail sales were lower in 1988 than they had been in October 1987. Four counties (Barton, Ellis, Finney, and Ford) in western Kansas contributed 46 percent of the total retail sales for the region.

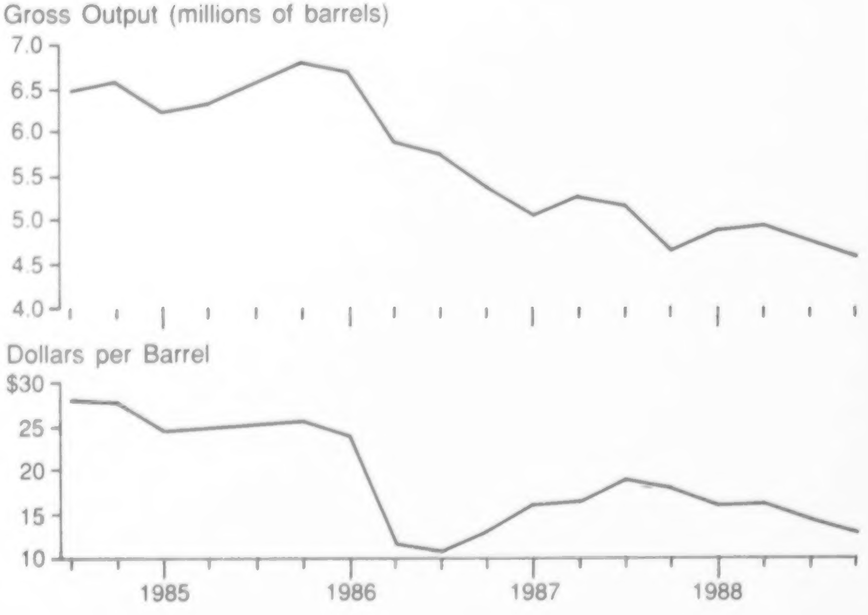
October retail sales in western Kansas do not reflect recent increases in employment, but typically there is a lag between increased employment, greater personal income, and finally expenditures on retail goods. The phenomenon of increased employment and flat retail sales is not surprising.

Figure 3
Western Kansas Retail Sales (in millions of dollars)



Source: Kansas Department of Revenue, *State Sales Tax Collection by County Classification* (published monthly).

Figure 4
Kansas Oil



Sources: Kansas Department of Revenue, *Minerals Tax Statistical Report*; Independent Oil and Gas Service, Inc., Koch Industries, Wichita, Kansas.

Retail sales data in Figure 3 are

not seasonally adjusted. As retailers know, many retail sales are subject to seasonal forces, with November and December being relatively strong months, while the late winter and early spring months are relatively weak. The flatness of retail sales for January, April, and July of 1988 indicates that the agricultural recession in western Kansas continues, although volatility is subsiding. Rather than a continuation of recession, 1988 retail sales may reflect consumers' uncertainty. Farmers, ranchers, and people in businesses that depend on agriculture may fear that the drought will continue into 1989 and beyond. Also, the new administration may reduce agricultural payments in an attempt to bring about a closer alignment between federal expenditures and revenues. In the thinking and planning of western Kansans, increased uncertainty due to nature and politics may require a more conservative approach to general expenditures. Spending that can be readily postponed (for consumer durable goods, new machinery, etc.) may be delayed until people are more certain about crop yields and the level of agricultural support in 1989 federal farm legislation.

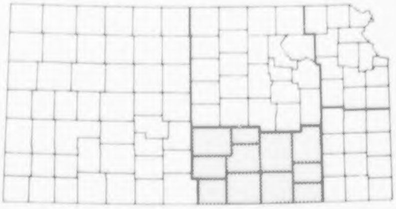
Oil Production and Prices

Figure 4 shows that in January, April, and July of 1988 oil production was between 4.5 and 5 million barrels a month. For the same three months, prices per barrel ranged from around sixteen dollars in January 1988 to between thirteen and fourteen dollars in October.

In November 1988, according to the *Wall Street Journal* of November 29, the OPEC cartel agreed to allow both Iran and Iraq the same production quotas, but as a compromise to Iran both were allowed to increase production. The other members of the cartel are to reduce production so as to increase prices about four dollars per barrel. Ultimately the goal of the OPEC cartel is to stabilize prices around eighteen dollars per barrel.

Clearly the behavior of the cartel has important implications for Kansas oil producers, since world prices ultimately dictate prices to local producers. Many oil analysts are doubtful that the agreement will hold together. If Saudi Arabia or Iraq, both holding huge oil reserves, should break the agreement, then the target price is not likely to be achieved. If OPEC members honor their agreement, prices may strengthen in 1989. The magnitude of any price increase would also depend on production levels of non-OPEC nations.

A modest price advance would probably not revive the western Kansas oil industry, since recent history has taught local oil producers not to rely on OPEC agreements. It seems unlikely that significant expansion in terms of drilling, employment, and income from the oil-servicing sector will occur in 1989.



South Central Kansas Outlook for 1989

David J. Poynter

David Poynter is the director of the Center for Economic Development and Business Research in the W. Frank Barton School of Business at Wichita State University.

The Center for Economic Development and Business Research identified early in 1987 that the national economy was being driven by growth from the manufacturing sector, spurred on by the declining value of the U.S. trade-weighted dollar. The influence of these factors has continued through 1988. Although a trade deficit still persists, exports continue to grow in real terms. The Center expects these trends to moderate in 1989, but they will continue to be positive factors for economic growth in south central Kansas.

In 1988 the national economy grew much faster than expected. During the first three quarters of 1988 the national economy averaged 3.1 percent real growth at annual rates. If we factor out the drought effects during the second and third quarters, the economy is currently growing around 3.5 percent, 1.5 to 2 percent faster than the forecast rate.

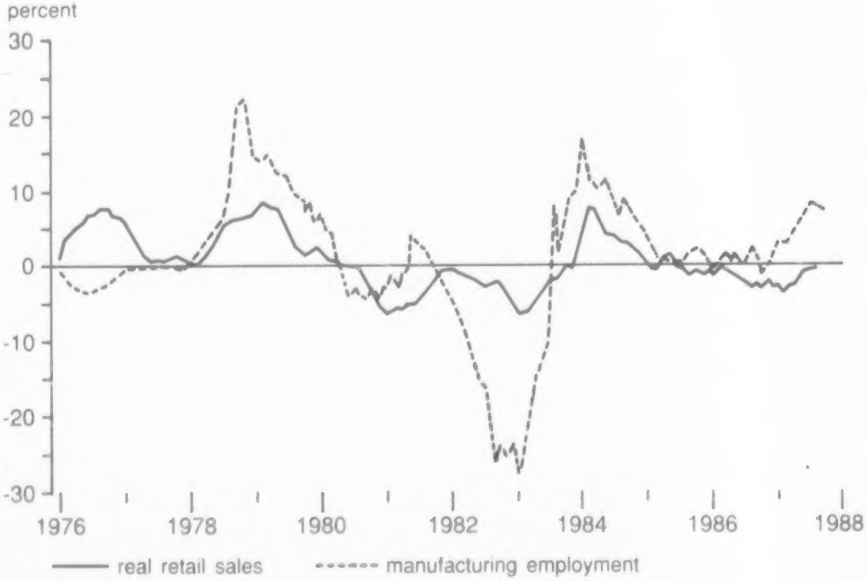
Other national economic factors will also affect the region. Increases in manufacturing employment have caused tight labor markets, and unemployment has continued to decrease nationally, falling to 5.4 percent of the civilian labor force in November. Another signal of tight labor markets is the hourly earning index, which recently grew around 3.8 percent (annual rate), although it otherwise remained stable over the past year.

Industry utilization rates are currently at historically high levels, 84 percent of existing capacity, and real GNP is growing faster than trend or potential GNP. This suggests that the economy is currently operating at or near capacity.

These recent national trends are mirrored in the Wichita economy. The Center expects manufacturing employment in the Wichita area to slow in 1989, with annual growth between 0.5 and 1 percent. Manufacturing is currently growing at an annual rate of 3.1 percent.

The Center closely monitors Wichita manufacturing employment and has discovered a consistent relationship with real retail sales in the area. Retail sales growth is a good aggregate-indicator of the health of the Wichita area economy. Since the late 1970s manufacturing employment growth has led retail sales growth by about six months over an average economic cycle. Figure 1 shows the relationship between retail sales and employment.

Figure 1
Wichita Area Sales and Employment (percent annual growth)



Source: Center for Economic Development and Business Research Data Base, Center for Economic Development and Business Research, W. Frank Barton School of Business Administration, Wichita State University.

Table 1 shows 1988 changes in real retail sales for south central Kansas counties as of August. Real retail sales for Kansas grew 0.8 percent over the same period.

Last year we predicted that real retail sales would grow between 0.5 and 1 percent in 1988, given manufacturing employment growth of 2.5 to 3 percent. Although all the data are not in, the Center is holding to that forecast. In 1989 the Center expects real retail sales to continue to grow around 0.5 percent, given manufacturing employment growth of 0.5 to 1 percent.

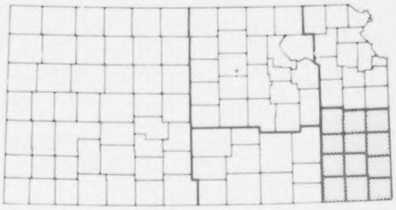
In conclusion, the Center expects south central Kansas and the Wichita area economy to grow around 0.5 percent in real terms in 1989.

Table 1
1988 Changes in Real Retail Sales*

	Percent Change		Percent Change
Kingman	2.0%	Greenwood	-0.3%
Chautauqua	0.9	Reno	-1.6
Butler	0.6	Cowley	-2.0
Harper	0.5	Sumner	-3.3
Harvey	0.3	Elk	-4.8
Sedgwick	0.1		

*As of August 1988.

Source: Center for Economic Development and Business Research in the W. Frank Barton School of Business, Wichita State University.



Southeast Kansas Brighter Prospects for 1989

Richard K. Hay

Dr. Hay is executive director of the Institute for Economic Development, Pittsburg State University, Pittsburg, Kansas.

Before the recession of 1982, many people believed that southeast Kansas was relatively recession-proof and that its economy would not follow national trends. Along with other Kansans, people from the southeast had a significant awakening in 1982 when they discovered their vulnerability to these national forces. Not only did the economy of southeast Kansas suffer from the recession, in the following years it failed to rebound along with the nation. An economic turnaround began in 1987 and has continued through 1988. Nevertheless, this turnaround represents only a modest beginning.

Although southeast Kansas shares many economic characteristics with the entire state, it also has some unique attributes. Historically, southeast Kansas has depended upon the declining industries of mining and railroads. The shakeout in these industries has continued through 1988, particularly in Parsons and Pittsburg. The region has attracted footloose, low-technology, labor-intensive industries, which have picked up some of the slack from the declining major industries. Recently, existing industry expansion and new venture startups have been emphasized.

In addition, the southeast Kansas economy has suffered from a lack of regional infrastructure development. Although community infrastructure is generally quite good, the region has not been successful in developing adequate transportation networks, especially four-lane highways.

Employment

During 1988, total employment grew and the unemployment rate declined sharply in southeast Kansas. Although employment did not increase in every county, average growth was about 2.7 percent in the region during 1988. The 1988 unemployment rate, averaging approximately 5.9 percent, was down from 6.4 percent in 1987. Some of this improvement was due to a decrease in the civilian labor force. Nevertheless, growth in total employment in spite of several plant closings was quite encouraging.

Generally, plant closings appear to be behind us now, and new business startups and business expansions should stimulate employment growth during 1989. The only black cloud on the employment horizon is the possibility of significant layoffs associated with the Missouri-Kansas-Texas Railroad in Parsons. Notwithstanding, total employment for the region should grow by 2 percent during 1988.

Despite a year of generally rising interest rates, the value of total building permits increased by 12 percent during 1988. Although higher interest rates resulted in a 27 percent drop in housing starts, commercial building permits defied the interest rate increases and more than offset decreased residential construction.

As with the rest of the region, the future of construction activity in southeast Kansas depends heavily upon interest rates. In light of the favorable outlook for employment and renewed stability in mortgage interest rates in 1989, construction should again increase significantly. We anticipate that during 1989 the value of building permits in the region will increase 15 percent with commercial construction again being significantly stronger than residential construction.

Retail Sales

Perhaps one of the most significant differences between the southeast Kansas economy and the national economy has been the consumer. Nationally, the recovery from the 1982 recession was led by consumer spending. In southeast Kansas, however, retail sales have remained soft, and the consumer has been a follower rather than a leader. This trend continued during 1988: Retail sales were relatively flat during 1988, increasing approximately 0.5 percent. National chains like Wal-Mart, however, have done well throughout the region. Services and soft goods were strong.

The overall improvement in the region's economy should help stabilize retail sales in 1989, when we expect southeast Kansas to move out of the minus column in retail sales growth. Once again, most of this improvement will occur in the soft goods sector. We can look forward to a 1 to 2 percent increase in total retail sales in 1989.

Sales of new automobiles were quite weak in southeast Kansas during 1987, depressing total retail sales. Sales declined in each county of southeast Kansas, and for the entire region new car sales in 1987 declined by approximately 3 percent. New truck sales were stronger than automobile sales and increased by 5 percent in 1988. Significant improvement in new car or truck sales during 1989 is not expected in the region since, nationally, auto sales are predicted to be only moderately strong. Perhaps new car and truck sales in the region, which have declined for the past several years, bottomed in 1988. We expect to find that new car sales increased 1 percent and new car sales and new truck sales increased 6 percent during 1988.

Summary

1988 was the second year of an upturn for southeast Kansas. Although prospects for 1989 are brighter than they have been in several years, the region continues to lag behind the state and the nation. Additional emphasis on expanding existing industries, assisting startup ventures, forming local and regional pools of venture capital, and developing four-lane highways are the keys to igniting and sustaining future economic growth in the region.

Kansas Center for Community Economic Development

The Institute for Public Policy and Business Research and the Kansas Center for Rural Initiatives have received a federal grant to establish a joint center called the Kansas Center for Community Economic Development. The Center will provide economic development expertise for Kansas communities of 50 thousand residents or fewer. Long-term projects will provide five types of services: strategic planning assistance, community development project consultations, information dissemination, development of a shared data base with the Kansas Department of Commerce, and studies evaluating community development efforts.

For Further Information

Communities with populations from 10 thousand to 50 thousand should contact:

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Institute for Public Policy and Business Research
The University of Kansas
218 Summerfield Hall
Lawrence, Kansas 66045
(913) 864-3123

Communities with populations of less than 10 thousand should contact:

Jan Flora
Kansas Center for Rural Initiatives
418 Farrell Library
Kansas State University
Manhattan, Kansas 66506
(913) 532-6868

The Role of State Government in Economic Development

Charles Warren

Mr. Warren is president of Kansas Inc. The following article was taken from the text of his remarks to the annual Economic Outlook Conference held at the University of Kansas on October 7, 1988.

Perhaps it is too dramatic to say that 1988 represented a watershed, a major turning point in history, in American government and politics, and in the economy. Too often, we exaggerate the importance of a year or a point in time, merely to grab the attention of our audience. While the supermarket tabloids can rely on headline grabbers to sell their stories, serious professionals should not stoop to such practices.

Yet I am not afraid to say that 1988 was a turning point. The presidential election, as well as state and local elections across the county, have determined our political leadership for the 1990s. Yet, the choice between presidential candidates may have been less important than the choices we had already made.

Writing at the beginning of this decade, John Naisbitt in his controversial book, *Megatrends*, brashly proclaimed: "In politics, it does not really matter anymore who is president, and Congress has become obsolete."[1] Reading his book six years later, it is easy to recognize the overstated rhetoric and the far too bold predictions. Presidents do matter and Congress is still important. Yet, the political and economic landscape has been permanently altered in the decade of the eighties.

John Naisbitt was focusing on two dramatic trends in society that moved us in opposite directions, the emergence of a global economy and political decentralization. The popular dictum has become, "Think globally and act locally." Significant economic decisions are now made in Seoul and Sacramento, as well as in Tokyo and Topeka. We have come to recognize that Washington is only one of many locations of power.

We no longer forecast the importance of a world economy—we live within it. We no longer predict and worry about the new federalism or the Reagan revolution. We practice our daily politics within its reality. The primacy of federalism has replaced the dominance of nationalism.

Writing in the October 1988 issue of *State Legislatures* magazine, Norman Ornstein of the American Enterprise Institute states:

> A good part of the reason for the primacy of federalism in governing is Ronald Reagan. After Reagan, the relationship between the states and the federal government will be in a constant state of evolution and change for some time to come.[2]

Ornstein points out that instead of looking for national solutions and Congressional answers, we have turned to a "new constructive side of federalism—self sufficiency and experimentation," which has legitimized the role of states as "laboratories of democracy." To quote him further, "The good news is that very little is likely to shift the tide of innovation away from the states no matter what happens in November."[3]

We participate much differently in state government than we did seven years ago. No longer do we, as state policymakers, consider ourselves merely bystanders or observers of national economic forces. We now act under the assumption that we can do something constructive about the economy. We now believe that it is possible to shape our own economies and prepare ourselves at the state and local level as players rather than spectators in this global economy. The watershed or turning point of 1988 was the acceptance that state government is an important factor in the economy. This new approach is the consequence not only of the past eight years; it is also a response to the world economy.

Nevertheless, it may be presumptuous or naive for Kansans (or New Yorkers or Californians) to assume that their state government does play an important role in economic development. The arguments against such a role are powerful. Washington still controls monetary policy, fiscal policy, and foreign trade policy.

State actions may seen puny when arrayed against the powers of national governments or international businesses. Perhaps what state government does is marginal. But in this era of economic competitiveness, success may well lie in the margins.

Scott Fosler of the Committee for Economic Development, a national organization of business leaders, cited two reasons why the states do, indeed, have an economic impact:

> First, structural changes in the economy have placed a high priority on factors over which the states have some influence: human resources,

capital, technology, and industrial organization. Second, increasing global competitiveness means that small advantages in cost, quality, or marketing can make a big difference in market share. States affect many of the small things that can determine the marginal competitive advantage.[4]

Kansas, like most other states in the nation, has accepted this new theory of economic development. In just the past few years, state government has taken major strides toward becoming an effective and consequential player in economic development.

*We have a wide array of new business and financial development programs on the books. Since 1986, the Kansas legislature has enacted over ninety bills in this area.

*We have created a set of economic development institutions to provide for strategic planning, policy development and implementation of these new initiatives.

*We have established a state lottery to provide a dedicated source of funding for economic development. That, combined with federal and state funds, has nearly doubled our resources for these activities.

*In doing so, we have recognized economic development as a major priority of state government, city and county government, and the business community.

Kansas has achieved a mature economic development policy that puts us in a good position to perform well in the future. We have a strategic plan for the economy. We have an institutional framework for implementation, and we are beginning to invest the resources needed. Now is the time to consolidate our gains and to capitalize on our efforts.

It is clearly a time for optimism about the Kansas economy:

*Our state unemployment (4.3 percent in the third quarter of 1988) remains well below the national average.

*More Kansans are employed today than in previous years.

*Our business climate ratings have improved dramatically.

*Kansas ranks fifth in business climate out of twenty-one lightly industrialized states, according to the Grant-Thornton 1988 survey.[5]

*Our competitive advantage is strong. The Kansas work force ranks number one in availability and productivity of resources. Along with our superiority in work ethic and education, the state has been ranked high in quality of life and there are only five states where the cost of living is lower.[6]

Kansas government is organized to play an important role in economic development. We now have five institutions to help shape and manage our development programs:

*Kansas Inc. is a state agency and public/private partnership with responsibility for 1) strategic planning, 2) coordination; 3) program evaluation; and 4) research into the critical issues facing the state's economy.

*The Department of Commerce has been reorganized and given major new responsibilities in business retention and expansion, international trade, and foreign investment. It has primary responsibility for implementing the state's strategy.

*The Kansas Technology Enterprise Corporation is responsible for research and technology transfer to help business adopt new technologies and product innovations. It has been given new funding for Centers of Excellence and seed capital programs.

*Kansas Venture Capital Inc. is now operating as a profit oriented firm owned jointly by the private sector and state government to make equity investments in growing Kansas businesses.

*The Kansas Development Finance Authority was created in 1987 to use bonding authority not only for public sector investments, but also to make capital available to businesses in the state.

Through these institutions, and traditional state agencies, we have recognized that we can influence our competitive posture in four ways:

1) by investing in human resources—education and business training;

2) by paying attention to advances in science and technology;

3) by increasing the availability of financial capital; and

4) by financing and managing our physical infrastructure.

Conclusion

The impact of this new economic role for Kansas and the other states remains uncertain. Operating under the best conditions, states can make a difference and state strategies and programs will pay off in the future. However, as a nation, we are in the sixth year of an economic expansion that may or may not continue. Whether the economic outlook remains positive or pessimistic, I leave to other experts. One thing is clear: Kansas has reached a new stage of maturity as an active participant in the state's economy.

Notes

1. John Naisbitt, *Megatrends*, (New York: Warner Books, 1982) p. 108.

2. Norman Ornstein, "Bush or Dukakis: How Will Federalism Fare?" *State Legislatures*, October 1988, p. 22.

3. Ornstein, "Bush or Dukakis," p. 23.

4. R. Scott Fosler, "State Economic Development: What Have We Learned and Where Are We Going?" Paper presented to the National conference of State Legislatures, Boston, Massachusetts, June 4-6, 1987.

5. GrantThornton, *Ninth Annual Grant-Thornton Manufacturing Climates Study*, (Chicago: Prentice Hall, July 1988) p. 129.

6. GrantThornton, *Ninth Annual Grant-Thornton Manufacturing Climates Study*, p. 129.

Principles Underlying Property Tax Abatement Policy

Charles Krider

Dr. Krider is director of business research at the Institute for Public Policy and Business Research and a professor in the School of Business at the University of Kansas. This article is based on his testimony to the Kansas Senate Taxation Committee on October 16, 1987.

The Kansas Constitution, as a result of an amendment passed by voters in 1986, authorizes cities and counties to grant property tax exemptions for economic development purposes. The amendment also specifies that the legislature may place limitations or prohibitions on the granting of exemptions that would apply to all cities and counties. The following proposals are intended to guide the application of tax abatements at the local level to ensure the productive use of such exemptions.

These recommendations are guided by several basic principles. First, communities should grant abatements on a limited basis to prevent serious erosion of their tax bases; such erosion would prevent governments from providing the infrastructure required for business. Second, abatements should only be granted when benefits to the community exceed costs; unproductive abatements should not be encouraged. Third, unproductive competition among local governments within the state must be prevented. Otherwise the fiscal capacity of the state as a whole will erode. And finally, abatements should be for basic industries, which provide or have the potential to provide an increase in net state wealth.

In light of these principles, the legislature could place the following limitations on communities granting tax abatements. If the legislature chooses not to specify how abatements should be granted, cities and counties could establish policies along the same lines.

1) Communities should have a written plan with criteria established before granting any abatements. The plan should be available to the public. The state legislation should require that the plan be submitted to the State Board of Tax Appeals and the Department of Commerce. A business person should be able to read the community plan and find how to apply for abatement, what criteria decision makers will use in granting abatements and determining their size and length, and what monitoring and reporting procedures will be required during the abatement period.

The community's written plan should allow property tax abatement only when the abatement is a determining factor in a firm's location decision process; abatements should not be available to firms that would locate in the community without the incentive.

2) Communities should be required to explicitly determine the costs and benefits of an abatement before granting it. An abatement should only be granted upon a clear and factual showing of direct economic benefit to the community. The state should provide a model for the cost-benefit analysis of tax abatements. The Indiana Economic Development Council is currently working on such a model for the state of Indiana, and Kansas Inc. has expressed interest in developing a similar model for the state of Kansas.

Among costs to be considered are the forgone tax revenues, taxes the firm would have paid if the firm had not received the abatement. The increase in public expenditures for government services such as education, protection, sanitation, and recreation services should be included in the analysis as well. Benefits to be considered include increases in property, sales, and income taxes attributable to new employees and the multiplier effects of additional investment and employment in the community. Other factors to consider are the kinds of jobs created and their salary levels. Providing jobs for the unemployed in the community and increasing the diversification of the local economy are also possible benefits.

3) Communities should be required to monitor each firm receiving a tax abatement. Annual reports should be required of each firm receiving a property tax abatement. These reports should document compliance with the terms of the tax abatement. For example, firms should be required to show whether or not the new jobs that were promised have actually been created.

4) When a firm has not met its agreement, communities should be required to modify or terminate abatements. A range of acceptable performance for each firm should be predetermined by the community.

5) Property tax abatements for firms moving from one location in Kansas to another within the state should be banned to prevent bidding between Kansas communities. A proviso may be needed to cover the case of a firm that definitely intends to leave its Kansas community and is choosing between another Kansas community and an out-of-state location. In this case, the two Kansas communities are not in competition for the firm: The competition is between the second Kansas community and the out-of-state community.

6) Abatements should be granted only to firms engaged in *basic industry*, as defined in Kansas House Bill 2021. Basic industries create wealth for the state by exporting goods beyond the state and bringing money in. The nonbasic industries depend on basic industries for their growth. As Kansas

basic industries, House Bill 2021 includes agriculture, mining, manufacturing, research and development, interstate transportation, and other businesses related to interstate commerce. Firms engaged in retail business or the provision of purely localized professional services are not usually basic industries. However, abatements may be granted to businesses outside the definition of basic industry when there are clear and demonstrable benefits to be derived by the state and the community involved.

7) A maximum allowable level of tax abatement for each job created should be established. This would be expressed in dollars of tax revenue abated for each job created.

8) A cap on abatements should prevent the community from using more than a certain percentage of its tax base for tax abatement purposes. Table 1 uses the example of Salina, Kansas, to show how the cap might be applied. If there were a 3 percent cap on tax abatements in Salina, the ceiling would be $124,890 in forgone tax revenues. With a 5 percent cap, Salina's ceiling would be $208,150.

Table 1
Pro Forma Tax Abatement Ceilings
Salina, Kansas, 1987
(in thousands of dollars)

	Assessed Valuation	**Tax Revenues**	**Revenues Forgone**
Actual circumstances, 1987	$114,503.0	$4,163.0	$ 0.0
With 3 percent cap	11,067.9	4,038.1	124.9
With 5 percent cap	108,777.9	3,954.9	208.2

This restriction would encourage constraint, careful targeting of resources, and the use of the most cost-effective instruments. Limiting tax abatements to a set percentage of the tax base would also prevent significant erosion of the tax base from the cumulative effects of tax abatements granted over a period of years.

Once tax abatements have reached this limit, a community would have to stop giving abatements until the tax base grew or firms dropped from the tax abatement program. However, even after the community has reached its cap there should be leeway for exempting a business when it is clearly to the community's benefit.

1987-1988 *Kansas Statistical Abstract*

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Kansas Income Tax Reform: The Aftermath of the Tax Reform Act of 1986

Chris Courtwright

Chris Courtwright is a research analyst for the Kansas Legislative Research Department. He is a staff member for the Senate Assessment and Taxation Committee and for the House Taxation Committee.

After the massive overhaul of the nation's tax structure achieved by the federal Tax Reform Act of 1986, many states found themselves facing windfalls in their revenue coffers, although their legislatures had taken no explicit action to raise taxes. Besides raising policy questions about the windfalls and whether they should be returned to taxpayers, the new federal law raised the issue of income tax reform at the state level. The Kansas legislature has been wrestling with both issues since 1987, and the furor has continued into the 1989 session.

Individual Income Taxes

Governor Mike Hayden had originally recommended that the 1989 session enact a bill that would offset $78.9 million of the individual income tax windfall. The rate reductions proposed by the governor would translate into average tax cuts of about $115 per return for joint filers and $31 for single filers. This proposal would be in addition to an estimated reduction in liability of $35.5 million provided by a significant income tax reform measure enacted in 1988. Some history regarding the windfall and tax reform issues in Kansas is therefore necessary before the policy implications of the governor's recommendations and the 1989 debate can be fully understood.

The Windfall and the Need for Conformity

Like many other states imposing individual income taxes calculated by using federal adjusted gross income as a starting point, Kansas reaped a windfall starting in tax year 1987 due to changes in the federal tax law that broadened the tax base. The windfall in Kansas occurred not only because the federal base changed, but also because Kansas allowed state taxpayers to deduct federal taxes paid. This deduction obviously decreased as federal tax liability decreased for most individual taxpayers. In addition, fewer taxpayers were able to take advantage of Kansas's relatively generous itemized deductions. Itemized deductions were only available to the decreasing number of taxpayers allowed to itemize on their federal tax returns under the new code.

The growing disparity between Kansas law and federal law increased the need for Kansas income tax reform. In 1987, Kansas itemized deductions were still based on federal itemized deductions in effect in 1977 although federal provisions had changed several times in the interim. For example, deductions for gasoline taxes paid, social security contributions, and for all unreimbursed medical expenses in excess of $50 were available to Kansas itemizers, even though they had not been available under federal law for many years. The Tax Reform Act exacerbated the situation by eliminating deductions for sales tax paid and phasing out the deduction for interest on consumer debt (both were still allowed as deductions on the Kansas return).

The Size of the Windfall

The last official estimate of the windfall from the individual income tax, made by the Consensus Revenue Estimating Group in November 1987, was $135 million for fiscal 1988. This figure was based on a simulation model developed by the Department of Revenue that estimated average tax increases attributable to the windfall to be $218 for joint filers and $48 for single filers. In retrospect the $135 million estimate appears to have been too low; individual income tax receipts for fiscal 1988 grew more than 30 percent, while Kansas personal income grew only 5 percent in 1987. Nevertheless, the 1988 legislature used the $135 million estimate in making tax reform policy decisions.

History of the Legislative Debate

In 1987, the Kansas legislature chose not to act to offset the windfall or to reform the tax structure. The House did pass a bill during the 1987 session that would have made the Kansas individual income tax base substantially conform to the new federal law, but it also would have kept the entire windfall for the state. That bill, however, was left in the Senate Assessment and Taxation Committee at the end of the session after the secretary of revenue testified that Governor Hayden could not support the bill at that time.

During the summer of 1987, the governor appointed a task force to review and refine the policy options associated with tax reform and the windfall. Governor Hayden based his recommendation to the 1988 session on their report. For individuals, he proposed to repeal the deduction for federal income taxes paid and replace the eight-bracket structure with two different brackets for single and joint filers. According to his proposal, personal exemptions, standard deductions, and itemized deductions for state taxpayers would conform to the new federal code. The recommendations, had they been implemented, would have reduced state revenues from tax year 1988 by an estimated $21.3 million.

Debate over Governor Hayden's individual income tax proposal in the 1988 legislature centered on three key issues:

1) whether the amount of the windfall returned to individual taxpayers should be more than that proposed by the governor;

2) whether the deduction for federal income taxes paid should be retained; and

3) whether any retroactive (tax year 1987) changes should be made to help those who were particularly disadvantaged by Kansas taking no action that year (especially elderly and blind taxpayers and those with unreimbursed employee expenses).

A number of legislators felt that a larger share of the windfall should be returned to individual taxpayers than the $21 million originally proposed by the governor, especially since the state had kept the entire windfall the first year. Most of these legislators did not think a proposed sales tax exemption for manufacturing machinery and equipment should be counted as part of the windfall "returned." Others argued that the fiscal condition of the state, still recovering from a 1986-1987 recession, would be jeopardized by returning more than $21 million.

The deductibility of federal income taxes became the most controversial issue in the 1988 debate. A number of legislators, particularly those from Johnson County, wanted to retain the deduction. Many believed that a federal tax increase was inevitable after the 1988 election, and they wanted to mitigate the effects at the state level. Recent experience had already given legislators an idea of how important the federal tax deduction was to their constituents. In Johnson County, the 1983-1984 "booster tax," which limited federal deductibility above a certain level for some taxpayers, was still a sore point.

Elderly and blind taxpayers were particularly disadvantaged in Kansas in tax year 1987 because in previous years they had received an extra personal exemption through conformity with federal law. However, when the Tax Reform Act of 1986 eliminated the extra personal income exemptions for these taxpayers and replaced them with bigger standard deductions, no such offset was available in Kansas.

Unreimbursed employee business expenses were another casualty of federal changes. These expenses had been allowed as an adjustment to income, but they could no longer be offset in any fashion in Kansas after the new federal law reclassified them as miscellaneous itemized deductions.

Final Version of the 1988 Law

After a long and arduous debate, the bill passed during the 1988 session brought the base for Kansas personal income taxes substantially in line with the federal base. In spite of a late-night filibuster on the floor of the House, the final version of the bill repealed the deduction for federal income taxes paid in favor of fewer rate brackets and lower top marginal rates.

The 1988 legislation will cost the state an estimated $35.5 million for tax year 1988. The simulation model estimated savings on joint returns would average $41, while single filers would save an average of $18. In addition, tax year 1987 refunds for elderly and blind taxpayers and for unreimbursed employee business expenses will reduce receipts by another $13 million.

Action in 1989

With individual income tax reform accomplished, the governor's recommendation to the 1989 session was simply to return more of the windfall by reducing personal income tax rates.

However, a conference committee agreement passed by the legislature on February 15 made another major change to the income tax structure. The bill would allow individuals the option of deducting federal income taxes paid in exchange for using a higher set of tax rates. The model estimates that only about 8 percent of individual taxpayers would benefit from the option. This provision, coupled with further rate reductions for those not taking the new option, would cut individual liability by $69.1 million. The average reduction per return would be about $100 for joint filers and $28 for single filers.

Corporation Income Tax

Other than a bill that would provide tax credits for certain day-care expenditures, the governor's major corporate income tax proposal thus far in 1989 is to repeal the alternative minimum tax enacted during the 1988 session. The governor has not supported another bill that would reduce corporate tax rates. But understanding the corporate income tax issues in 1989 again requires some background and recent legislative history.

The Corporate Windfall

The Consensus Revenue Estimating Group concluded in 1987 that changes in the federal tax law affecting corporations would have a positive fiscal impact on Kansas. The group could not quantify the impact because of the complexity of the corporate tax structure and the timing of receipts: Part of corporate receipts are attributable to assessments made against the previous year's liability, and large refunds are frequent and unpredictable.

Another reason for the unpredictability of corporate tax revenues is that a few corporations pay a large percent of total corporate tax revenues for the state, so changing fortunes of a few firms can significantly affect the Kansas total. For example, for corporate returns processed in 1987, tax revenues from less than 1 percent of the corporations filing returns amounted to more than 57 percent of total corporate tax liability.

Legislative History

As well as individual income tax recommendations, the 1987 Governor's Task Force on Tax Reform made a number of business tax recommendations to the 1988 session. On the corporate side, the governor's plan called for an income-apportionment option for certain corporations with Kansas payrolls exceeding 200 percent of their property and sales in the state. Apparently only one Kansas corporation qualifies for this option now, but the option may be an incentive for economic development. Its availability to firms with proportionally heavy payroll expenses might encourage large corporations to locate their headquarters in Kansas.

The task force also recommended an alternative minimum tax on corporations ("piggy-backed" on the new federal alternative minimum tax), which would raise about $6 million a year. The task force proposed that corporations no longer be allowed to offset income in prior years with current year net operating losses. Eliminating net operating loss carrybacks would increase estimated revenues by a one-time amount of $15 million. A final "business tax" recommendation of the task force was to exempt manufacturing machinery and equipment from sales tax; this was estimated to reduce receipts by $11-17 million.

During the 1988 session, many legislators supported a corporate rate reduction to help offset the corporate windfall. Although revenue estimators had concluded that federal law changes made it impossible to adequately quantify the impact on corporations, many legislators argued that this impact was identifiable and larger than most officials expected.

Nevertheless, the task force recommendations were enacted largely as proposed: The legislature did not reduce corporate income tax rates, and it did enact an alternative minimum tax (although the imposition was delayed a year).

The Special Committee on Assessment and Taxation studied corporate taxation during the summer of 1988 and recommended two bills to the 1989 session. If enacted, these bills would
1) repeal the alternative minimum tax;
2) reduce the 4.5 percent corporate base rate and the 2.25 percent surtax by 0.25 percent each; and
3) raise the income level at which the surtax becomes effective from $25,000 to $50,000 of taxable income.

The committee concluded that 1989 is an appropriate time to make the Kansas corporation income tax structure more competitive.

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Economic Indicators

TABLE ONE: ECONOMIC INDICATORS

					% Change From	
Comparison Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	Previous Period	Year Ago
A. Personal Income - Annual rates, SA						
Kansas - Mil. $	2nd	39977.0	38803.0	37272.0	3.03	7.26
United States - Bil.$	3rd	4092.37	4022.43	3801.03	1.74	7.66
B. Employment						
Kansas - Thou., NSA	3rd	1225.85	1245.34	1219.05	-1.57	0.56
United States - Mil., SA	3rd	115.19	114.64	112.85	0.48	2.07
C. Unemployment Rate						
Kansas - % NSA	3rd	4.3	4.2	4.4		
United States - % SA	3rd	5.5	5.4	6.0		
D. Retail Sales - Annual rates						
Kansas - Mil. $, NSA	3rd	18273.80	17557.38	17165.18	4.08	6.46
United States - Bil. $, SA	3rd	1613.92	1592.67	1539.12	1.33	4.86
E. Consumer Price Index-U, All items, SA						
Kansas City* - 1982-1984 = 100	JAN-JUN	116.30	114.60	111.50	1.48	4.30
United States - 1982-1984 = 100	JAN-JUN	116.92	114.75	112.50	1.89	3.93
Kansas Indicators						
F. New Incorporations, NSA For Profit - Number	3rd	1141.00	1072.00	1094.00	6.44	4.30
G. Tax Revenue, NSA General Fund Tax Revenue - Mil. $	3rd	485.50	680.10	447.50	-28.61	8.49
H. Operating Expenditures, NSA General Fund Operating Expenditures - Mil. $	3rd	332.60	479.60	316.90	-30.65	4.95

*The Kansas City CPI-U is published semi-annually with the first period being January through June average and the second period being July through December average.
National employment and unemployment rate figures are based on the Current Population Survey (household survey).
State figures are based on the Current Employment Statistics Survey (establishment survey).
NSA-Not seasonally adjusted.
SA-seasonally adjusted.

SOURCE: BEA, BLS, Ks. Dept. of Human Resources, Ks. Secretary of State, Ks. Dept. of Administration, Ks. Dept. of Revenue.

TABLE TWO: NATIONAL INDICATORS
(Seasonally Adjusted)

General Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	% Change From Previous Period	% Change From Year Ago
A. Income Measures, Annual rates						
Gross National Product - Bil. 82$	3rd	4010.90	3985.20	3865.30	0.64	3.77
Disposable Personal Income - Bil. 82$	3rd	2799.77	2762.13	2683.93	1.36	4.32
Personal Consumption - Bil. 82$	3rd	2604.50	2579.00	2545.20	0.99	2.33
Gross Private Investment - Bil. 82$	3rd	723.80	715.10	667.90	1.22	8.37
Net Export of Goods and Services - Bil. 82$	3rd	-95.20	-92.60	-130.70		
Government Purchases - Bil. 82$	3rd	777.80	783.80	782.90	-0.77	-0.65
Savings Rate - %	3rd	4.17	3.93	2.50		
B. Labor Force						
Civilian Labor Force - Mil.	SEP	121.92	122.03	119.96	-0.09	1.63
Employed - Mil.	SEP	115.33	115.18	112.87	0.13	2.18
Unemployed - Mil.	SEP	6.60	6.85	7.09	-3.72	-6.98
Unemployment Rates - percent						
All	SEP	5.40	5.60	5.90		
Women	SEP	5.50	5.60	6.10		
Men	SEP	5.30	5.60	5.80		
Teens	SEP	15.70	15.80	16.40		
Blacks and other than white	SEP	9.40	10.00	10.90		
Whites	SEP	4.80	4.90	5.10		
C. General Business						
Industrial Production - 1977 = 100	3rd	138.37	136.00	130.93	1.74	5.68
Mfg. and Trade Sales - Bil. 82$	2nd	1365.80	1350.50	1315.80	1.13	3.80
Mfg. and Trade Inventories - Bil. 82$	2nd	2063.87	2047.99	1966.82	0.78	4.93
New Orders, Durable Goods - Bil. 82$	3rd	311.21	315.26	297.27	-1.28	4.69
Capacity Utilization, Mfg. %	3rd	84.00	83.20	81.40		
New Housing Starts, Private - Tho.	3rd	4387.00	4442.00	4856.00	-1.24	-9.66
D. Prices						
Consumer Prices - 1982-1984 = 100						
CPI-U, All Items	SEP	119.40	119.00	114.60	0.34	4.19
Food	SEP	120.50	119.60	114.50	0.75	5.24
Housing	SEP	119.20	118.90	115.00	0.25	3.65
Apparel	SEP	115.80	113.50	111.30	2.03	4.04
Transportation	SEP	109.90	109.80	106.80	0.09	2.90
Medical	SEP	140.70	139.90	131.90	0.57	6.67
Producer Prices - 1982-1984 = 100 (NSA)						
All Commodities	SEP	108.10	108.00	103.70	0.09	4.24
Industrial Commodities	SEP	106.90	107.10	103.50	-0.19	3.29
Crude Materials	SEP	96.60	97.30	95.70	-0.72	0.94
Capital Equipment	SEP	114.30	114.50	111.20	-0.17	2.79
Agricultural Prices - 1977 = 100						
Prices Received	SEP	144.00	144.00	129.00	0.00	11.63
Prices Paid	SEP	171.00	172.00	164.00	-0.58	4.27
E. Monetary and Credit Aggregates*						
Total Reserves	3rd	4.30	5.80	-0.90		
M1	3rd	5.30	6.30	0.80		
Commercial Banks:						
Savings	3rd	8.60	11.00	10.10		
Small Denomination Time	3rd	10.10	11.80	7.40		
Large Denomination Time	3rd	21.40	6.70	6.80		
Thrift Institutions:						
Savings	3rd	5.20	6.60	7.00		
Large Denomination Time	3rd	4.10	14.00	9.90		
Debt Components:						
Federal	3rd	7.00	8.30	5.80		
Nonfederal	3rd	8.70	8.60	8.50		
Interest Rates - Monthly						
Prime Rate - %	SEP	10.00	9.84	8.70		
Discount Rate - %	SEP	6.50	6.37	5.95		

* Annual rates of change, seasonally adjusted in percent.

SOURCES: BEA, BLS, Survey of Current Business, Federal Reserve Bulletin.

TABLE THREE: QUARTERLY EMPLOYMENT IN KANSAS

	1988 Q3	1988 Q2	1987 Q3	% Change From 1988 Q2	% Change From 1987 Q3
A. General Indicators					
Civilian Labor Force - Tho.	1281.08	1299.84	1274.95	-1.44	0.48
Employed - Tho.	1225.85	1245.34	1219.05	-1.57	0.56
Farm Employment - Tho.	70.80	66.23	72.50	6.89	-2.34
Unemployed - Tho.	55.24	54.49	55.90	1.36	-1.18
Initial Claims for Unemployment Insurance - Tho.	10.66	9.98	9.72	6.84	9.76
Average Work Week, Mfg. - Hrs.	40.60	40.77	40.63	-0.41	-0.08
B. Industry Employment, in thousands					
All Industries	1015.70	1021.87	996.90	-0.60	1.89
Manufacturing	181.30	180.30	177.10	0.55	2.37
Durable Goods	107.17	106.00	103.07	1.10	3.98
Fabricated Metal Production	11.93	11.83	11.27	0.85	5.92
Machinery (incl. Elec.)	29.07	28.77	27.63	1.04	5.19
Transport. Equip.	46.27	46.03	44.97	0.51	2.89
Nondurable Goods	74.13	74.30	74.03	-0.22	0.14
Food and Kindred Prod.	28.50	28.40	28.10	0.35	1.42
Meat Products	15.03	14.83	14.47	1.35	3.92
Printing and Publishing	18.60	19.00	18.80	-2.11	-1.06
Petroleum and Coal	3.20	3.07	3.03	4.35	5.49
Mining	11.50	11.60	11.73	-0.86	-1.99
Oil and Gas Extraction	10.00	10.13	10.17	-1.32	-1.64
Contract Construction	45.53	42.93	47.70	6.06	-4.54
Trans. and Public Utilities	61.07	61.23	61.57	-0.27	-0.81
Wholesale Trade	70.80	70.47	68.87	0.47	2.81
Retail Trade	186.53	186.47	184.17	0.04	1.29
Finance, Ins., and Real Estate	57.53	57.37	57.10	0.29	0.76
Services	209.67	208.43	201.73	0.59	3.93
Federal Government	26.37	26.67	27.20	-1.13	-3.06
State and Local Government	165.40	176.40	159.73	-6.24	3.55

SOURCES: BLS, Ks. Dept. of Human Resources.

TABLE FOUR: QUARTERLY KANSAS RETAIL SALES SUBJECT TO SALES TAX*

	1988 Q3	1988 Q2	1987 Q3	% Change From 1988 Q2	% Change From 1987 Q3
Sales - Mil. $					
Apparel	443.73	448.70	426.28	-1.11	4.09
Automotive	3733.27	3504.10	3448.58	6.54	8.26
Food	4302.48	4026.38	4070.27	6.86	5.71
Furniture	1336.06	1052.43	846.82	26.95	57.77
General Merchandise	2396.76	2654.30	2562.79	-9.70	-6.48
Lumber and Building Materials	1412.27	1249.29	1400.02	13.05	0.87
Prof. and Pers. Service	1073.29	1019.22	965.57	5.31	11.16
Public Utilities	807.75	802.22	854.50	0.69	-5.47
Unclassified	1644.88	1612.95	1498.83	1.98	9.74
Farm and Garden Products	23.97	20.78	16.55	15.35	44.83
Manufacturing and Trading	1055.25	1080.28	1033.75	-2.32	2.08
Miscellaneous	44.10	107.93	41.25	-59.14	6.91
Total	18273.80	17557.38	17165.18	4.08	6.46

NOTE: Retail sales figures are based on sales tax collections. Actual and reported retail sales may vary.

* Annual Rates

TABLE FIVE: QUARTERLY PERSONAL INCOME IN KANSAS*

	1988 Q2	1988 Q1	1987 Q2	% Change From 1988 Q1	 1987 Q2
A. Personal Income					
Total - Mil. $	39977	38803	37272	3.03	7.26
Nonfarm Income - Mil. $	37313	36697	35446	1.68	5.27
Farm Income - Mil. $	2665	2106	1826	26.54	45.95
Average Weekly Earnings, Mfg.** - $	415	412	412	0.68	0.67
B. Earnings by Industry, in Millions					
Nonfarm	25659	25127	24371	2.12	5.28
Farm	2665	2106	1826	26.54	45.95
Manufacturing	5056	4982	4959	1.49	1.96
Durable Goods	3138	3077	3103	1.98	1.13
Nondurable Goods	1918	1905	1856	0.68	3.34
Mining	307	304	305	0.99	0.66
Contract Construction	1538	1511	1627	1.79	-5.47
Trans. and Public Utilities	2287	2240	2171	2.10	5.34
Wholesale Trade	1914	1849	1807	3.52	5.92
Retail Trade	2649	2638	2464	0.42	7.51
Finance, Ins., and Real Estate	1556	1523	1443	2.17	7.83
Services	5624	5431	5098	3.55	10.32
Federal Government	763	756	738	0.93	3.39
State and Local Government	713	706	659	0.99	8.19

*Seasonally adjusted, at annual rates
**Not seasonally adjusted.

SOURCES: BEA, Ks. Dept. of Human Resources.

TABLE SIX: MONTHLY KANSAS AGRICULTURAL INDICATORS

	1988 September	1988 August	1987 September	% Change From 1988 August	 1987 September
Prices Received *					
All Farm Products - 1977 = 100	174	173	147	0.58	18.37
All Crops - 1977 = 100	156	151	98	3.31	59.18
Wheat - $/Bu.	3.59	3.39	2.38	5.90	50.84
Sorghum Grain - $/Bu.	4.14	4.02	2.38	2.99	73.95
Corn - $/Bu.	2.65	2.64	1.56	0.38	69.87
Soybeans - $/Bu.	7.86	8.31	4.87	-5.42	61.40
All Hay - $/Ton	90.00	93.00	57.00	-3.23	57.89
Livestock and Products - 1977 = 100	185	187	178	-1.07	3.93
All Beef Cattle - $/Cwt.	71.40	71.70	66.20	-0.42	7.85
Steers and Heifers - $/Cwt.	72.80	72.90	67.30	-0.14	8.17
Calves - $/Cwt.	90.50	92.00	87.00	-1.63	4.02
Hogs - $/Cwt.	39.60	43.30	52.80	-8.55	-25.00
Milk - $/Cwt.	12.10	11.40	12.50	6.14	-3.20

*Not seasonally adjusted.

SOURCE: Ks. Crop and Livestock Reporting Service.

TABLE SEVEN: QUARTERLY EMPLOYMENT AND SALES FOR SMSAs AND COUNTIES

				% Change From	
Area	1988 Q3	1988 Q2	1987 Q3	1988 Q2	1987 Q3
A. Wichita SMSA					
Civilian Labor Force - Tho.	253.97	257.04	252.75	-1.19	0.48
Employed - Tho.	242.15	245.40	241.46	-1.32	0.29
Unemployed - Tho.	11.82	11.64	11.29	1.52	4.70
Rate - %	4.67	4.53	4.47		
Retail Sales - Mil. $	881.69	848.48	831.94	3.91	5.98
B. Kansas Portion of Kansas City SMSA					
Civilian Labor Force - Tho.	316.95	324.07	318.00	-2.20	-0.33
Employed - Tho.	302.93	310.66	303.75	-2.49	-0.27
Unemployed - Tho.	14.02	13.41	14.25	4.51	-1.60
Rate - %	4.43	4.13	4.47		
Retail Sales - Mil. $	1098.91	1023.87	1014.86	7.33	8.28
C. Topeka SMSA					
Civilian Labor Force - Tho.	91.91	94.22	90.53	-2.45	1.52
Employed - Tho.	87.97	90.58	86.54	-2.88	1.65
Unemployed - Tho.	3.94	3.64	3.99	8.35	-1.29
Rate - %	4.30	3.90	4.40		
Retail Sales - Mil. $	347.19	339.28	289.65	2.33	19.87
D. Lawrence SMSA					
Civilian Labor Force - Tho.	39.44	40.76	39.09	-3.23	0.90
Employed - Tho.	38.08	39.30	37.70	-3.13	1.00
Unemployed - Tho.	1.37	1.45	1.39	-5.92	-1.82
Rate - %	3.50	3.60	3.60		
Retail Sales - Mil. $	115.31	109.77	108.79	5.05	6.00
E. Riley County--Manhattan Area					
Civilian Labor Force - Tho.	26.72	28.15	26.78	-5.09	-0.22
Employed - Tho.	25.65	27.19	25.91	-5.66	-1.01
Unemployed - Tho.	1.07	0.97	0.87	11.12	23.30
Rate - %	4.03	3.43	3.27		
Retail Sales - Mil. $	61.06	58.42	53.60	4.51	13.91
F. Reno County--Hutchinson Area					
Civilian Labor Force - Tho.	31.62	32.01	31.66	-1.22	-0.13
Employed - Tho.	30.17	30.52	29.89	-1.15	0.94
Unemployed - Tho.	1.45	1.49	1.77	-2.75	-18.22
Rate - %	4.57	4.67	5.60		
Retail Sales - Mil. $	104.47	100.01	94.83	4.46	10.16
G. Crawford County--Pittsburg Area					
Civilian Labor Force - Tho.	17.15	17.70	17.05	-3.07	0.64
Employed - Tho.	16.36	16.79	16.12	-2.57	1.49
Unemployed - Tho.	0.79	0.90	0.92	-12.39	-14.29
Rate - %	4.60	5.10	5.40		
Retail Sales - Mil. $	45.45	44.22	44.62	2.78	1.87
H. Lyon County--Emporia Area					
Civilian Labor Force - Tho.	19.22	19.99	18.92	-3.86	1.57
Employed - Tho.	18.43	19.13	18.19	-3.64	1.32
Unemployed - Tho.	0.79	0.86	0.73	-8.75	7.97
Rate - %	4.10	4.33	3.83		
Retail Sales - Mil. $	52.03	50.81	49.38	2.39	5.35
I. Saline County--Salina Area					
Civilian Labor Force - Tho.	27.46	27.62	27.00	-0.59	1.68
Employed - Tho.	26.23	26.39	25.69	-0.62	2.08
Unemployed - Tho.	1.23	1.23	1.31	0.11	-6.23
Rate - %	4.50	4.43	4.83		
Retail Sales - Mil. $	104.81	101.52	99.26	3.25	5.60
J. Barton County--Great Bend Area					
Civilian Labor Force - Tho.	14.72	14.95	15.08	-1.49	-2.37
Employed - Tho.	14.00	14.18	14.20	-1.27	-1.43
Unemployed - Tho.	0.72	0.77	0.88	-5.56	-17.56
Rate - %	4.93	5.13	5.83		
Retail Sales - Mil. $	59.93	60.05	56.00	-0.20	7.02
K. Montgomery County--Coffeyville Area					
Civilian Labor Force - Tho.	17.94	18.31	17.90	-2.02	0.27
Employed - Tho.	16.90	17.24	16.90	-1.98	0.02
Unemployed - Tho.	1.05	1.07	1.00	-2.64	4.47
Rate - %	5.83	5.83	5.60		
Retail Sales - Mil. $	52.30	52.88	51.14	-1.11	2.27

SOURCE: Ks. Dept. of Human Resources, Ks. Dept. of Revenue.

TABLE EIGHT: QUARTERLY BANKING ACTIVITY IN KANSAS*

				% Change From	
Federal Reserve Member Banks	1988 Q3	1988 Q2	1987 Q3	1988 Q2	1987 Q3
Kansas, in Millions					
Total Deposits	37669.3	36604.0	33938.6	2.91	10.99
Total Checkable	6212.3	6232.3	6059.1	-0.32	2.53
Demand Deposits	3053.7	3089.7	3094.4	-1.17	-1.32
Other Checkable	3158.7	3142.7	2962.1	0.51	6.64
Small Time and Savings	25317.0	25039.0	23087.2	1.11	9.66
Large Time	6140.0	5332.7	4792.2	15.14	28.13
Kansas City, KS, in Millions					
Total Loans	1786.63	1765.97	1706.02	1.17	4.73
Real Estate	921.73	902.93	850.58	2.08	8.37
Commercial and Industrial	567.43	552.07	523.08	2.78	8.48
Consumer	97.57	102.20	106.36	-4.53	-8.27
Total Deposits	1980.87	1943.53	1847.35	1.92	7.23
Demand Deposits	234.33	233.23	246.31	0.47	-4.86
Time and Savings	1119.17	1085.17	998.07	3.13	12.13
Topeka, in Millions					
Total Loans	383.70	370.33	323.17	3.61	18.73
Real Estate	110.10	107.93	102.91	2.01	6.99
Commercial and Industrial	146.20	138.20	109.14	5.79	33.96
Consumer	78.93	76.10	48.41	3.72	63.04
Total Deposits	523.53	523.63	511.17	-0.02	2.42
Demand Deposits	164.10	172.70	158.71	-4.98	3.40
Time and Savings	218.10	221.27	223.40	-1.43	-2.37
Wichita, in Millions					
Total Loans	1346.13	1286.20	1237.27	4.66	8.80
Real Estate	264.00	250.30	253.29	5.47	4.23
Commercial and Industrial	505.87	489.30	471.13	3.39	7.37
Consumer	430.07	396.00	360.49	8.60	19.30
Total Deposits	1895.67	1868.83	1865.24	1.44	1.63
Demand Deposits	454.70	450.17	460.40	1.01	-1.24
Time and Savings	912.27	930.17	916.85	-1.92	-0.50

*The data above pertain only to Federal Reserve member banks of Kansas and do not represent all commercial banking in the state. Since 1980, these data have covered approximately 50 percent of the state's banking activity.

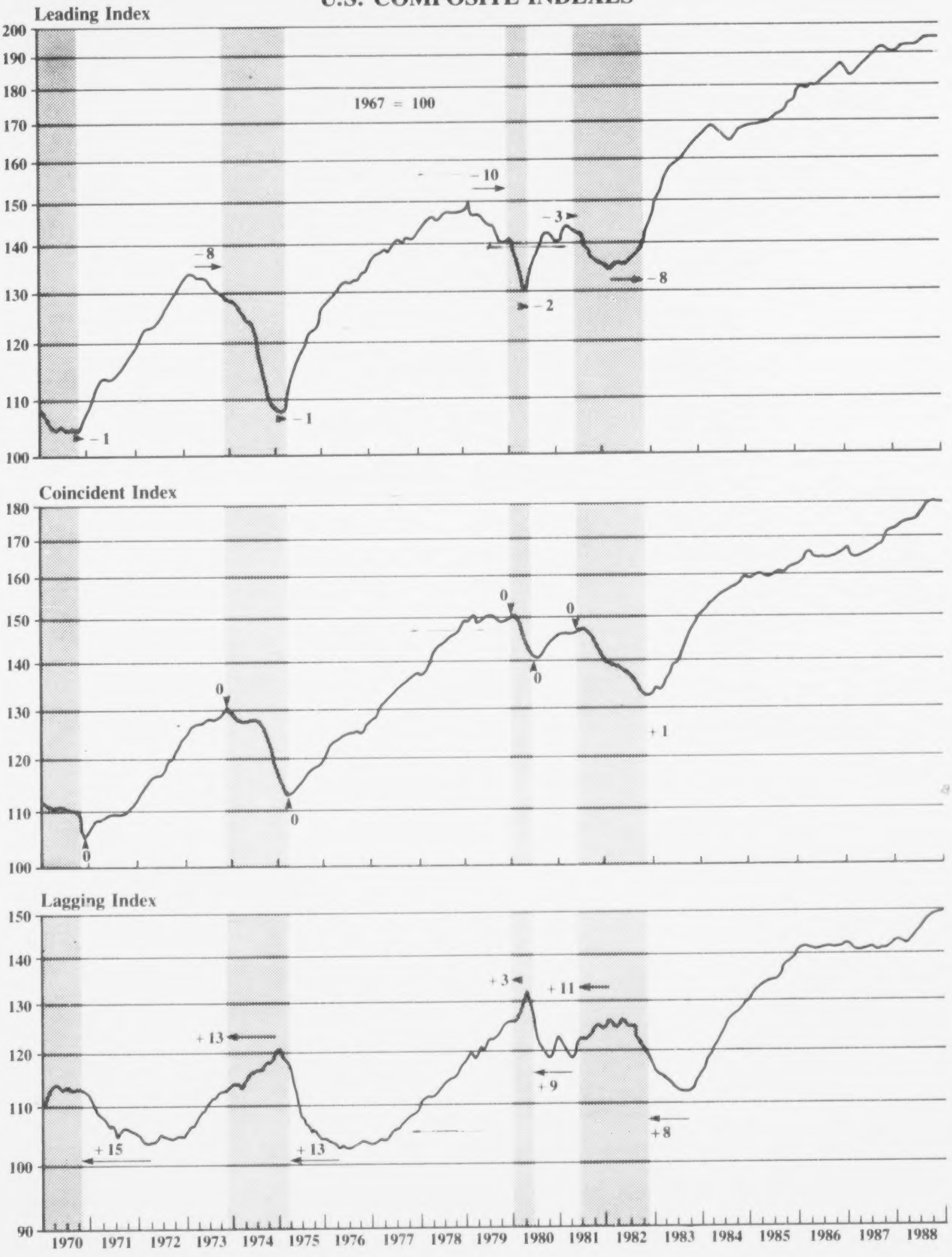
SOURCE: Federal Reserve Bank of Kansas City.

TABLE NINE: QUARTERLY SAVINGS AND LOAN ACTIVITY IN KANSAS

				% Change From	
Area	1988 Q3	1988 Q2	1987 Q3	1988 Q2	1987 Q3
A. Kansas, in Millions					
Total Assets	22950.60	21864.17	19952.20	4.97	15.03
Mortgage Loans	14745.27	14623.47	14966.10	0.83	-1.48
B. Kansas City, KS, in Millions					
Total Assets	2475.63	2466.67	2294.17	0.36	7.91
Mortgage Loans	1934.93	1922.53	1767.43	0.64	9.48
C. Topeka, in Millions					
Total Assets	3359.93	3204.50	2936.47	4.85	14.42
Mortgage Loans	2922.33	2785.13	2544.57	4.93	14.85
D. Wichita, in Millions					
Total Assets	1935.20	1679.73	1627.97	15.21	18.87
Mortgage Loans	1337.50	1312.53	1228.60	1.90	8.86

SOURCE: Federal Home Loan Bank of Topeka.

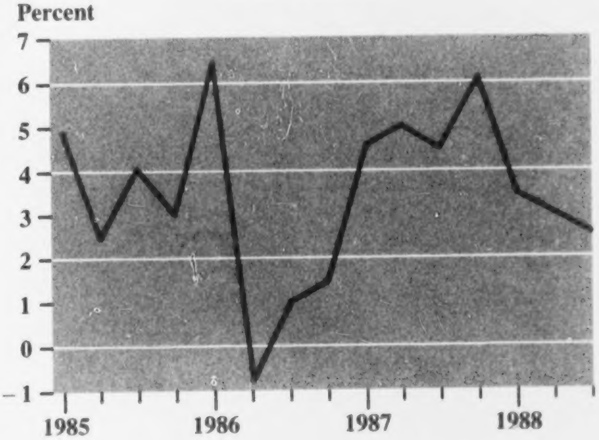
U.S. COMPOSITE INDEXES



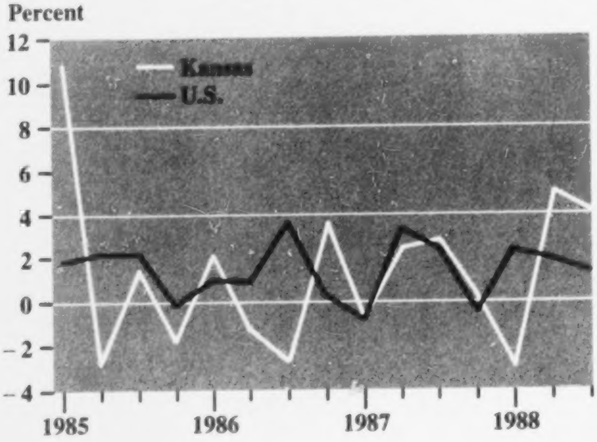
Source: Bureau of Economic Analysis, *Business Conditions Digest.*

Note: Numbers entered on the chart indicate length of leads (−) and lags (+) in months from reference turning dates.
Shading indicates periods of recession.

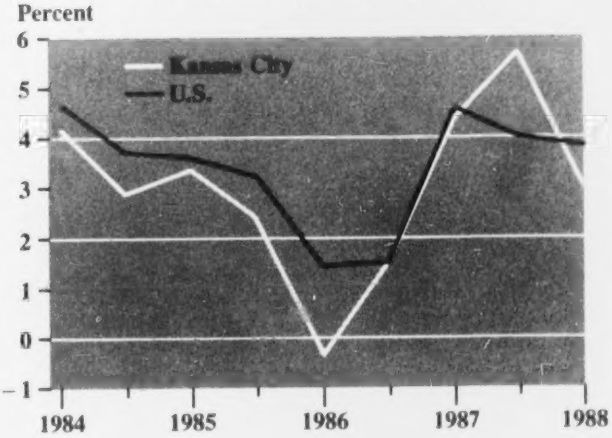
Average Annual Growth Rate of GNP
(1982 Dollars)



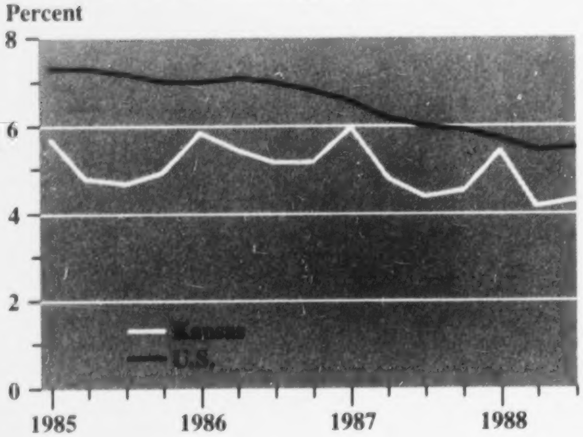
Growth of Retail Sales
(In Current Dollars)



Rate of Inflation
(CPI-U, Seasonally Adjusted)



Civilian Unemployment Rate



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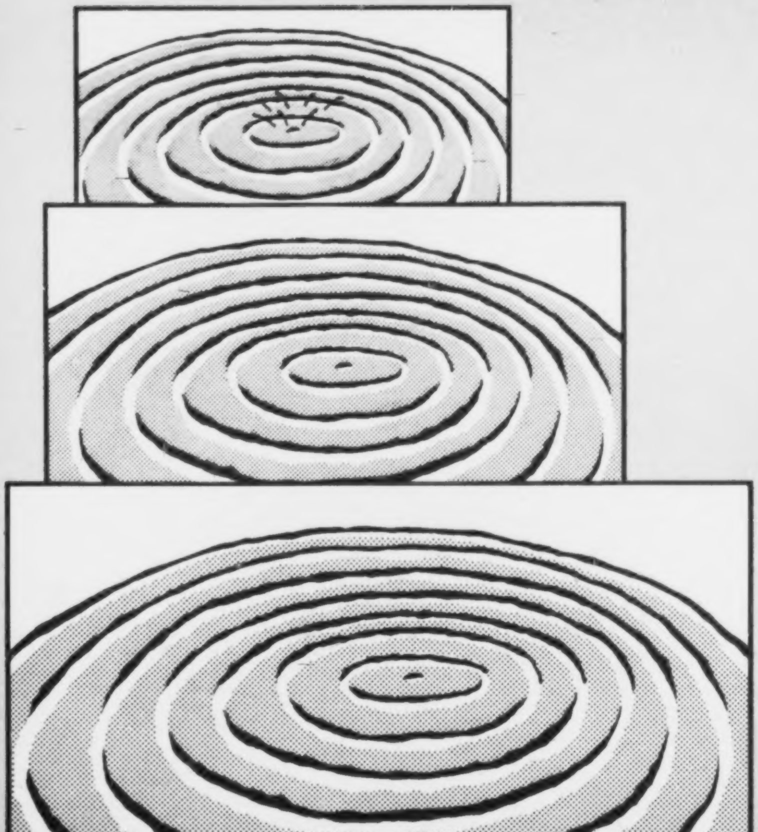
David Burress



The Role of Kansas in U.S. Exports
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Retail Sales in Rural Kansas Communities
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Economic Outlook for Kansas and the Nation
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The Institute for Public Policy and Business Research, The University of Kansas

KANSAS BUSINESS REVIEW

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Economic multipliers derived using the Kansas Long-Term Model provide good evidence that the large multipliers often quoted by special interest groups are too optimistic. Where public policy may be influenced by multipliers, decision makers should be aware that all multipliers are not constructed equally.

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There has been much discussion on what the best estimates of the multipliers for Kansas might be. The following article reflects the position of the Institute for Public Policy and Business Research.

Anthony Redwood, Executive Director

Economic Impact Multipliers for Kansas

David Burress

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Introduction

At one time, economic multipliers were arcane technical devices used by academic economists; now they appear frequently in the business news, in political discourse, and even on the front page of the local newspaper. The new multipliers reported in this paper are often smaller than previously published multipliers for Kansas, even though the new multipliers account for more effects. They were derived using the Kansas Long-Term Model (or KLTM), a dynamic input-output model under development at the Institute for Public Policy and Business Research. In this paper, I will discuss the significance of the new multipliers, their uses, and limitations.

The range of results is summarized in Table 1. As shown, a typical or median income multiplier is around 0.46; a typical output multiplier is around 1.6; a typical wage-wage multiplier is around 1.9; and a typical employment multiplier is around 1.9. As the table shows, however, multipliers for individual industries can vary over a substantial range. There are several reasons for treating these extreme values with caution.

Multiplier Abuse

It sometimes seems that the bigger a multiplier is, the more often it is quoted.[1] In any case, some distinctly one-sided political and economic motives encourage the propagation of exaggerated multipliers.

In particular, economic multipliers are used to justify public concessions to private industry. Such assistance for business may include land acquisition, new roads and sewers, job training programs, subsidized loans, and tax incentives.[2] The extent of public concessions is determined through bargaining between government and industry, and in the course of the bargaining those who stand to gain most from the new enterprise have a natural tendency to inflate the relevant multipliers.[3]

The inflation of multipliers may stem less from venality than from an innate optimism, which seems to be necessary in the risky business of development. Since multipliers are costly to measure, of uncertain accuracy, varied in their meanings, and multifarious in their origins, a convenient range of multiplier values is always available; discriminating users are free to choose the best values for their purposes.

This paper will add to the low range of multiplier values, rather than to their usefulness to optimists. That is, these multipliers are significantly smaller than those that tend to appear in the press. While they do not approach perfect accuracy, our results do provide good evidence against the routine use of large multipliers.

Multiplier Use

Multipliers translate a known (or assumed) *direct effect* into an estimated *total impact* equal to the direct effect plus an *indirect effect*. For example, 100 jobs in a new manufacturing plant (the direct effect) might lead indirectly to 60 more jobs in the local service sector (the indirect effect). In this case, the total impact would be 160 jobs, and the employment multiplier would be 1.6.

The indirect effects may result from several different kinds of linkages. Some examples would be new sales to the manufacturing plant, sales to the new workers, additional sales to the sellers, and even expanded sales to an expanded government made necessary by the expanded economy. The indirect effects also may include investment and the migration of workers.

Using multipliers correctly depends on correctly identifying the direct effects. According to export-base theory, a region's economy depends mainly on what its businesses sell to other regions (quantified as the direct effect) and how the income from sales flows through the regional economy (described by multipliers).[4] The key point here is to distinguish changes in sales to other regions from economic activity in general. (Other possible applications of multipliers are discussed below.)

Table 1
Ranges of Kansas Multipliers

	Multiplier Value	Sector Number*	Sector Description
Output–export multipliers:			
Low	1.4	7	Oil and gas extraction
Median	1.9	–	
High	2.7	5	Metal and nonferrous mineral mining
Income–export multipliers:			
Low	.11	21	Petroleum refining
Median	.46	–	
High	1.00	55	Metal and nonferrous mineral mining
Wage–wage multipliers:			
	1.5	–	Transfers (exogenous income)
Low	1.5	48	Federal government enterprises
Median	1.9	–	
High	5.6	21	Petroleum refining
Job–job multipliers:			
Low	1.3	44	Eating and drinking places
Median	2.0	–	
High	6.5	21	Petroleum refining

*Table 3 on page 5 shows how these sectors correspond with Standard Industrial Classifications.

For example, suppose a new retail store is built in downtown Wichita. Although Table 2 includes multipliers for Kansas retailing, it would be wrong to apply them to the new store's sales: the new retail store will probably sell almost exclusively to Kansans, so it will probably take business from other Wichita retailers. The indirect effect approximately cancels the direct effect; the true multiplier is very close to zero. In order to correctly apply the Kansas retailing multipliers in Table 2, one must first identify a bona fide increase in sales to *non-Kansans*.[5]

In addition to increased sales to non-Kansans, there are two less common situations where these multipliers can be used. A second use of multipliers has to do with *import substitution*—replacing goods purchased from non-Kansans with goods produced within the state. Under reasonable assumptions,[6] the multipliers reported in this paper apply to an import substitution event as well as to an expansion of the export base.

A third use of multipliers has to do with income transfers and taxation across state boundaries. For example, about 13 percent of Kansas personal income comes from Social Security payments. According to the income–income multiplier for transfer payments in Table 2, each additional dollar of Social Security income received in Kansas leads to an additional indirect income of fifty cents in Kansas. Consequently, the total effect of Social Security payments amounts to some 20 percent of Kansas personal income. The same principle applies in reverse to Social Security taxes and other federal taxes. An increase of one dollar in federal taxes paid by Kansans leads to a total reduction of around $1.50 in Kansas disposable income.

Thus, multipliers apply to negative changes as well as to positive changes. Reductions in Kansas interstate export sales, reductions in transfer payments, and the replacement of Kansas products by imports all have negative effects on the Kansas economy that can be estimated using these multipliers.

Using multipliers correctly, as with everything else in applied economics, depends on taking them with a large dose of ceteris paribus. For example, to use these multipliers to estimate the changes in the Kansas economy resulting from an increase in Kansas aircraft sales, one must first assume that federal taxes and transfer payments in Kansas and sales of all other goods to non-Kansans remain constant. One must also assume that spending patterns do not change: the same fraction of income is spent on imports out of new income as was spent out of old income, and within the state each economic unit spends the same fraction of its resources on each type of product as it did when the data underlying the model were collected.

What Multipliers Measure

A multiplier is always a ratio between some measure of a total effect and some measure of the direct effect that caused it. This definition covers many different measures. To explain the multipliers reported below, I will describe them in the context of five dimensions common to all multipliers.

How Change is Denominated

A change in the size of an industry can be measured in several ways: jobs, income, sales, and output quantities are examples. Also, the total effect can be denominated differently than the direct effect, leading to a large number of possible combinations. Starting with the three dimensions most commonly used (jobs, sales, and income), we immediately have nine possible types of multipliers: job–job, job–sales, job–income, sales–job, and so on.

Three of these, however, are used

Table 2
The Complete Multipliers

#	Sector Description	output–export	income–export	wage–wage	job–job
1	Livestock	2.2	.41	3.1	2.2
2	Crops	2.0	.51	1.9	1.6
3	Forestry, commercial fisheries	1.7	.27	3.2	4.2
4	Agricultural services	2.4	.84	1.7	1.9
5	Metal and nonferrous mineral mining	2.7	1.00	1.7	2.6
6	Coal mining	2.1	.72	1.6	2.2
7	Oil and gas extraction	1.4	.14	2.3	4.0
8	Stone, clay, and gravel	2.2	.81	1.6	2.0
9	Construction	1.9	.44	2.2	2.2
10	Food processing	2.2	.36	3.5	4.5
11	Tobacco processing	1.4	.18	2.2	n.a.
12	Fabrics and apparel	1.8	.41	1.9	1.7
13	Lumber and wood	1.8	.40	2.0	1.8
14	Furniture and fixtures	1.9	.52	1.8	1.7
15	Paper products	1.8	.36	2.1	2.2
16	Printing and publishing	2.1	.56	2.0	1.8
17	Chemicals	1.8	.30	2.6	3.2
18	Plastic materials and synthetics	1.7	.28	2.4	3.1
19	Drugs and preparations	1.8	.35	2.4	2.9
20	Paints	1.9	.35	2.5	2.8
21	Petroleum refining	1.6	.11	5.6	6.5
22	Rubber, rubber products, plastic products	1.8	.43	1.8	2.0
23	Leather and leather products	1.7	.42	1.7	1.5
24	Glass, stone, and clay products	2.3	.58	2.2	2.5
25	Iron, steel, and other metal products	1.9	.41	2.1	2.2
26	Metal products, ordnance, structural metal	1.8	.50	1.7	1.8
27	Engines and machinery	1.9	.56	1.7	1.9
28	Computers, computing equipment	2.0	.52	2.0	2.1
29	Electrical equipment and appliances	2.0	.67	1.7	1.7
30	Electronic components and parts	1.7	.31	2.4	2.6
31	Motor vehicles and equipment	1.6	.31	1.9	2.2
32	Aircraft and parts	2.0	.58	1.8	2.2
33	Other transportation equipment	1.8	.48	1.8	1.8
34	Scientific and photographic equipment	1.8	.50	1.7	1.6
35	Miscellaneous manufacturing	1.8	.44	1.9	1.8
36	Transportation–and warehousing	2.1	.58	1.9	2.2
37	Communications except radio and T.V.	1.8	.51	1.6	1.8
38	Business services, radio, and T.V.	1.8	.49	1.6	1.7
39	Electric services, utilities	2.1	.33	2.9	3.2
40	Wholesale and retail trade	2.0	.66	1.6	1.5
41	Finance and insurance	2.2	.66	1.9	1.9
42	Real estate and rental	1.4	.12	3.4	2.8
43	Hotels, personal services	1.9	.52	1.6	1.4
44	Eating and drinking places	1.9	.40	2.1	1.3
45	Automobile repair and services	1.7	.30	2.6	2.3
46	Amusements	2.1	.48	2.0	1.7
47	Health, education, and social services	2.0	.64	1.6	1.5
48	Federal government enterprises	2.0	.76	1.5	1.6
	Transfer payments (exogenous income)	–	–	1.5	–

Note: Table 3 on page 5 shows how these sectors correspond with Standard Industrial Classifications.

more frequently than the others, and are often given shorter names. Employment (job–job) multipliers refer to the total number of new jobs in the region per each direct new job in a given export-base industry.[7] Output (sales–sales, or output–export) multipliers refer to the total dollar value of new sales resulting in the region from one dollar in direct new export sales in a given industry. Income (income–sales, or income–export) multipliers refer to the total amount of additional income in the region that results from one dollar in direct new export sales in a given industry.

In this paper I report a fourth type, wage–wage multipliers. These multipliers relate the total new wage and salary income in Kansas to the change in wages and salaries earned in the exporting sector. For farming, proprietors' income was used instead of wage and salary income. Wage–wage multipliers have no common short names.

It is also possible to define extended multipliers that measure the effect of economic change on other variables such as population, government expenditures, environmental pollution, or the relative distribution of income.[8]

The Target Region

The multipliers reported in this paper are specific to Kansas. This simple point has several implications.

First, the indirect effects measured by the multiplier may take place anywhere in Kansas, and not necessarily in the same city or county as the direct effect. For example, some part of the total effect is due to increased state government purchases, which tend to be centered in Topeka. Also, the effects of increased demand tend to trickle up from smaller rural areas to the larger urban centers.

Second and consequently, the multipliers for individual cities and counties in Kansas will almost always be smaller than those for Kansas as a whole. To put this in other terms, smaller areas purchase a larger fraction of their needs from outside the region than do larger areas; these larger leakages leave fewer dollars to recirculate in the local economy, so multipliers are smaller. Therefore, for measuring local impacts in Kansas, the multipliers reported in this paper should be treated as upper bounds.

Third, the multiplier for each industry is based on average spending patterns of all Kansas firms in that industry. When firms closer than average to the border make an export sale, more of the money from the sale will leak across the border, so the multiplier will be smaller than average. Conversely, transactions of firms closer than average to the center of the state will tend to have an above average multiplier.

Level of Aggregation

The multipliers reported here are broken out by the forty-eight sectors or general types of industry defined in Table 3. In principle it is possible to break these down further, but in practice the cost of obtaining data rises rapidly as the number of sectors increases, and the cost of disaggregation quickly becomes prohibitive. Therefore any multiplier must be viewed as an average over all the detailed types of firms in that sector in that region.

In the Kansas Long-Term Model (along with most other input–output models) sectoral definitions obey some accounting definitions that create pitfalls for the unwary. First, output is defined in terms of *producer prices*, meaning prices prior to the costs of transportation, wholesaling, and retailing. Second, output in the trade and transportation sectors is measured by the markup or increase in cost, and not by the total value of sales or shipments.

Short–Run and Long–Run Models

An economic event may have a complex time path that is hard to summarize in a single multiplier. Many authors distinguish between the short–run impact of a change and the long–run effect after the regional economy returns to equilibrium.[9] In this paper I report only the long–run multipliers. They represent the total increase in the measured variable resulting from a permanent one-unit increase in exports in a given sector.[10]

Time Base

In the long run, multipliers change. New technology and changes in taste lead to changes in expenditure patterns; changes in transportation costs and in regional comparative advantages lead to changes in the geographical pattern of trade and leakage. Changes in expenditure patterns caused by price changes and the business cycle may also change multipliers in the short run.[11] Generally the multipliers I report in this paper are based on data from 1977 to 1981. How applicable these multipliers are to the present and the future is a subject for future research.

How Multipliers Are Constructed

Even multipliers that measure the same thing may vary in magnitude when different data sources or measurement techniques are used in their construction. The choice of measurement technique affects the accuracy[12] and completeness of the multipliers and the cost of their construction.[13]

Econometric versus Input–Output Models[14]

Econometric models use a regression technique to relate changes in total economic activity to changes in exports of different types of goods. The regression is on a sample of observations, which may include a single region at many points in time; many regions at a single point in time; or in a few studies, pooled regions across time. At its very best, this approach is more direct and more credible than any alternative.

In most econometric applications, however, there are some severe limitations. First, by their nature the resulting multipliers are averages over time or over regions or both; the multipliers are usually not localized in time or space. Second, various econometric difficulties tend to limit accuracy and the feasible extent of disaggregation. Third, and most problematic, the method works well only in those very rare cases where extensive and accurate data on regional exports are available

Table 3
Sector Definitions

#	Sector Description	Included SIC Codes
1	Livestock	021, 024, 025 except 0254, 027, 029
2	Crops	01
3	Forestry, commercial fisheries	08
4	Agricultural services	0254, 07 except 074, 085, 09
5	Metal and nonferrous mineral mining	10
6	Coal mining	1111, 1211
7	Oil and gas extraction	131, 132
8	Stone, clay, and gravel	141, 142, 144, 145, 149
9	Construction	15-17 except 153; 1112, 1213, 138, 148
10	Food processing	20
11	Tobacco processing	21
12	Fabrics and apparel	22, 23
13	Lumber and wood	24 except 2451
14	Furniture and fixtures	25
15	Paper products	26
16	Printing and publishing	27
17	Chemicals	147, 281, 286, 287, 289
18	Plastic materials and synthetics	282
19	Drugs and preparations	283, 284
20	Paints	285
21	Petroleum refining	29
22	Rubber, rubber products, plastic products	30
23	Leather and leather products	31
24	Glass, stone, and clay products	32
25	Iron, steel, and other metal products	33, 3463
26	Metal products, ordnance, structural metal	34 except 3463, 3761, 3795
27	Engines and machinery	35 except 357
28	Computers, computing equipment	357
29	Electrical equipment and appliances	36 except 367, 3825
30	Electronic components and parts	367
31	Motor vehicles and equipment	371 except 3716
32	Aircraft and parts	372, 376 except 3761
33	Other transportation equipment	2451, 3716, 373, 374, 375, 379 except 3795
34	Scientific and photographic equipment	38 except 3825
35	Miscellaneous manufacturing	39
36	Transportation and warehousing	40-42, 44-47
37	Communications, except radio and T.V.	48 except 483
38	Business services, radio and T.V.	483, 73 except 7396; 8100, 89 except 8920
39	Electric services, utilities	49 except 491
40	Wholesale and retail trade	50-57, 59, 7396, 8042
41	Finance and insurance	60-64 except 613; 67 except 6732
42	Real estate and rental	153, 65, 66
43	Hotels, personal services	70, 72, 76
44	Eating and drinking places	58
45	Automobile repair and services	75
46	Amusements	78, 79
47	Health, education, and social services	074, 6732, 80 except 8042; 82, 84, 86, 892
48	Federal government enterprises	43, 613

by sector. Input–output models such as the Kansas Long–Term Model can provide a more detailed disaggregation than econometric models, but they also cost more. Input–output models are constructed by collecting extremely detailed information on the sales between each pair of sectors for one year. With forty-eight sectors, that amounts to some 2,304 (forty-eight times forty-eight) groups of data. Some models require much more data to measure imports, exports, sales to households, and purchases and sales for investment purposes. The data are arranged in matrices that describe the flow of economic activity between sectors. Thus, input–output models assume that inputs will bear the same proportion to outputs or to household income in the future as they did when the data were collected. The multipliers are then inferred from the data using matrix algebra.

Since input–output multipliers are based on indirect reasoning and depend on a number of assumptions, it is very hard to measure their accuracy. A few attempts have been made to compare input–output multipliers directly with corresponding econometric multipliers;[15] although the results of these comparisons have been inconclusive, the two types of multipliers do seem to give similar results.

In particular, when the input–output multipliers reported in this paper were compared recently to multipliers from an independent econometric model of Kansas,[16] the average mean errors were typically 25 to 30 percent. Neither model gave systematically larger multipliers, but for some sectors the two multipliers varied by as much as 50 percent depending on which model generated them.

Data Sources

Input–output models are classed as nonsurvey, partial survey (or hybrid), and full survey models. The classification describes where they lie on the continuum between models based on data from published sources (with or without adjustments and modifications) and models based on direct original surveys of firms and households in the region.

Full survey models are believed to be substantially more accurate than nonsurvey models. Even the best full survey model, however, depends on piecing together fragmentary information from many sources, including government records and statistics collected for other purposes; even the worst nonsurvey model ultimately depends on government statistics derived from surveys of firms and households. The accuracy of a model depends finally on how suitable the underlying source surveys are to the task at hand: whether the surveys covered the actual target region or some larger region; whether the sectoral and accounting conventions were consistent with the assumed sectoral scheme; and whether the data had to be extensively adjusted or modified.

Nonsurvey input–output models have been constructed for most states of the United States.[17] Because of their cost, full survey models have been constructed in only a few states. Kansas is one of these states; Professor Jarvin Emerson at Kansas State University has constructed full survey models of Kansas for several different years. For technical reasons,[18] the Emerson data were not used in the Kansas Long–Term Model. Instead, the model uses published data. For a fuller description of the data, see the Appendix and also the following discussion of trade data.

Measurement of Trade Data

The accuracy of multipliers is especially sensitive to the accuracy of data on sales across state or regional boundaries.[19] Unfortunately, these data are not routinely published by government agencies; also, they are especially hard to survey. Consequently, most multiplier measurements rely on rather crude approximations for exports and imports.

Methods based on location quotients are among the least bad of these approximations. With this approach, one assumes that a product is imported only when all the local production of that product is used up. Any surplus production is exported. This approach understates the leakages caused by imports and, consequently, overstates the multipliers. Compared with multipliers from full survey models, multipliers from location quotient models are about 20 percent bigger, but in a few sectors they may be much larger.[20]

The multipliers reported here from the Kansas Long–Term Model rely on actual survey data from the Census of Transportation for interstate shipments of material goods, but interstate trade in services was estimated using location quotients.

Static and Dynamic Multipliers

Econometric multipliers compare the total effect of an economic event with the direct effect, using straightforward statistical averages based on regression. In contrast, input–output multipliers measure the total effect by accounting piecemeal for a number of different indirect effects. Consequently, input–output multipliers generally omit some of the indirect effects, in particular the ones that are either hard to measure or expected to be small.

Input–output multipliers are classified according to which indirect effects have been accounted for. Type I multipliers only account for one kind of indirect effect: induced sales from one firm to another firm within the region. Type II multipliers like the ones reported in this paper also account for household spending out of the new regional income, so they are larger and more accurate.

Input–output multipliers are also classed according to how much time is included in the model that generated them: a static model describes only the first ripple in the economy after the initial transaction. In contrast, a dynamic model like the KLTM describes the detailed time-path of indirect effects of a transaction. The multipliers reported here take into account several long–run effects, not only intermediate product demands and household demands, but also the effects of state and local government expenditures that are induced by an increase in state income. The effects of state and private capital investment needed to replace the depreciation associated with a permanent expansion in output are also included.[21]

Conclusion

An unfortunate feature of current multiplier research is that estimates of accuracy are rarely published. This shortcoming is understandable: it is hard to measure the accuracy of multipliers, especially hard for the first researcher, who has no standard of comparison. The ultimate user of multipliers is left to guess at the reliability of the multipliers he or she uses, and the user is in a worse position to make these guesses than the original producer.

In that light, and taking into account the spotty available information,[22] I estimate the error in the individual multipliers reported here is within 25 to 35 percent of the true value on average, though some individual multipliers may be worse.[23] Note that even these accuracy figures are based partly on the assumptions that the KLTM theory corresponds to reality and that we have not made numerical blunders.

In cases where there is no detailed sectoral information (for example, for evaluating the future effects of a development incentive that applies to all sectors), it is reasonable to use generalized Kansas multipliers based on the median multipliers in Table 1. That is, a generalized Kansas output–export multiplier is around 1.9; a generalized Kansas export–income multiplier is around 0.46; a generalized Kansas wage–wage multiplier is around 1.9; and a generalized Kansas job–job multiplier is around 2.0. I expect that the level of these generalized multipliers is biased by less than 30 percent, and possibly less than 20 percent. In other words, improved information in the future is unlikely to change the measured level of these generalized multipliers by as much as 30 percent.

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Appendix

The following gives a description of how the input–output parameters were estimated. A list of data sources is given at the end of the Appendix.

Multiplier Formula

The matrix formula used for constructing the export–output multipliers is given in the equation below. Similar equations apply to the other multipliers; for details see Burress and Clifford [1988].

$$M = (I - A - \beta\phi' - B\hat{k}\hat{\tau}\hat{\delta} + m)^{-1}(I + m)$$

where:
I is the identity matrix.

$\beta\phi'$ is a non-negative matrix which translates output quantities into induced Kansas demands, assuming constant wage rates, returns to capital, and prices (which are determined outside the region), and also constant ownership shares of property income by Kansans and non-Kansans. These induced demands include not only household consumption purchases, but also state and local government demands.

A is a non-negative matrix of intermediate input demand coefficients.

B is a non-negative matrix of investment coefficients.

$\hat{k}$ is the set of desired ratios of capital to capacity.

m is a non-negative matrix of normal import requirements (i.e., imports required to meet the domestic demand under the usual condition of excess capacity).

$\hat{\delta}$ is a matrix of capacity depreciation rates.

$\hat{\tau}$ is the set of desired ratios of capacity to output.

Parameter Construction

The A matrix shows flows of goods between sectors. It was first inferred for eighty-six sectors using the 1981 BEA make and use tables for the nation under commodity-based technology assumptions (i.e. $A=UV^{-1}$). For consistency with theory, negative coefficients were eliminated as follows. Large negative coefficients in two sectors were removed by pre-aggregating communications with business services. A few very small negative coefficients in other sectors were simply set to zero. Then the A matrix was aggregated to forty-eight sectors. The aggregation was weighted using *County Business Patterns* data on Kansas output, so as to alter the national flows to reflect the structure of the Kansas economy.

The B matrix describes how economic activity affects investment in capital equipment. Investment coefficients were inferred for eighty-six sectors from the 1981 BEA capital flows table.

Capital to capacity ratios k were calculated for manufacturing sectors by averaging six years of data by sector. Capital was taken from the BEA U.S. tangible reproducible wealth series; annual output figures and the ratio of output to preferred capacity were also from the BEA. The capital stock was then corrected to agree with the concepts used in the capital flow table by prorating on 1981 sectoral investment from the two sources. A similar procedure was used in nonmanufacturing sectors, except that capacity was assumed to equal output for each year.

In calculating k, the critical or desired level of capacity utilization was inferred for each manufacturing sector by regressing net investment on capacity utilization; the intercept (point of zero net investment) was then taken to be the critical level of utilization.

Depreciation rates δ were inferred from the 1981 tangible reproducible wealth series.

The capital coefficients (B,k,δ) were then aggregated to forty-eight sectors, prorating on 1981 Kansas outputs.

Import coefficients m were estimated using *Multiregional Input–Output Accounts, 1977* from the U.S. Department of Health and Human Services for material flows, and 1981 location quotients for flows of services. For inferring regional income coefficients ϕ, the following assumptions were made: property income is exported in all sectors except agriculture, where all income is received by Kansans. Labor income is received by Kansans. Bureau of Labor Statistics wage bill data were used to estimate 1981 wage coefficients.

For inferring consumption coefficients β, the 1981 BEA use tables were used for household demands; census of government data were used to infer government demands in Kansas.

Data Sources

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Notes

1. For example, large multipliers are reported in Berry [1988]; and the *Kansas Business News* [1988]. Both of these articles rely on a study [Heins 1982] contracted by the Institute for Economic and Business Research (or IEBR, the precursor to IPPBR), on behalf of the Kansas Chamber of Commerce and Industry. The Heins study was released but not endorsed by IEBR; indeed, an internal review criticized the study both for its implausible methodology and for its implausible results [Sexton, undated]. In particular, the study used a regression model that implied, contrary to most theory and evidence, that small towns supply a higher fraction of their needs locally than do large cities. It may not be surprising that the results of the Heins study have been circulated very widely in Kansas.

2. For some discussion and citations on the effects of intergovernmental competition on economic development, see my earlier article in this review [1988].

3. Some members of the community are likely to be harmed rather than helped by aggressive concessions for development; retired people, for example, are unlikely to benefit from local economic development, but might be subject to higher taxes and crime and congestion resulting from development. These interest groups would have an incentive to understate rather than overstate multipliers.

At the same time, these interest groups are unlikely to be actively involved in discussions of development policy, for two reasons. First, they have a diffuse rather than a concentrated interest (many individuals stand to lose a small amount, but none stand to lose a large amount). Second, they typically have limited knowledge and expertise about development, and their access to discussions of development policy is limited. A similar argument is made in the public choice literature, for example, Olson [1971].

4. See Burress [1988] for a more detailed discussion of export base theory.

5. For a discussion of actual retail sales to non-Kansans from Johnson County, Kansas, see Sanborn et al. [1988].

6. Burress [1987] gives conditions under which import multipliers equal the corresponding export multipliers.

7. Because of the nature of available data, the job-job multipliers reported in this paper count part-time jobs with the same weight as full-time jobs.

8. We have not undertaken this type of analysis. For a survey of extended environmental multipliers, see Briassoulis [1986].

9. In econometric modeling, the short-run multiplier is referred to as an impact multiplier, and the long-run multiplier is referred to as a total multiplier. Note that the *total multiplier* in this sense should not be confused with the *total effect*. In particular, the short-run multiplier is determined by the total short-run effect.

10. McNulty [1977] and others cited therein have argued that export multipliers make the most sense as long-run concepts, because of the time required for investment activities as well as for population movements. Although McNulty's empirical work was flawed (see Gerking and Isserman [1981]), his theoretical argument remains persuasive. Indeed, Andrews and Tate [1988] and others cited therein give evidence that export multipliers do require several years to take their full effect. Moreover, the multipliers reported in this paper are based on a dynamic input-output model with some rather arbitrary assumptions about short-run lags, but these assumptions do not affect the long-run multipliers. [See Burress and Clifford, 1988.]

11. For a discussion of short-run changes in multipliers, see the two 1984 articles by Pickerill.

12. In this paper I take an aggressively positive and pro-user view of accuracy. That is, I define an *accurate* multiplier as one which, under ceteris paribus conditions, measures as nearly as possible what an ordinary user expects it to measure. In particular, I doubt whether an ordinary user has any interest in Type I or Type II multipliers on their own merits; instead, he is looking for a measure of the total effect of an exogenous change.

Many researchers on multipliers have argued for a narrower and more defensive view. For example, Giarratani [1980, p. 193] states "[A] distinction between forecasting and impact analysis must be drawn because there is simply no empirical possibility of measuring the extent of error in the latter instance." This seems unnecessarily to defend impact multipliers against dangerous confrontations with reality. For an example of an attempt to measure errors in an quasi-impact analysis, see Conway [1988].

13. An extensive review of techniques for constructing multipliers is given by Richardson [1985].

14. I have omitted the simplest and least expensive way to measure multipliers, which is an economic base model. This model divides the economy into only two sectors: industries that mainly export (basic industries) and industries that mainly produce for local consumption (nonbasic industries). The multiplier represents the ratio of total economic activity to activity in the basic industries. This approach has fallen into disfavor because it is believed to be inaccurate. In particular, it is highly aggregative (there is only one exporting sector), and exports are poorly measured. In the real world, many industries produce partly for local consumption and partly for export.

15. For citations and a discussion of attempts to compare multipliers, see Burress and Clifford [1988].

16. The comparison of multipliers is in Burress and Clifford [1988].

17. For a review of state input-output models,

see Eglinski, Oslund, and Burress [1988].

18. See M. Jarvin Emerson [1969; 1974]. Professor Emerson has completed but not published a 1985 model. The model most recently published by Emerson was for 1971, about a decade older than the most recent national model. Also, like all full-survey models, Emerson's model is static rather than dynamic. Emerson's sector scheme, which heavily emphasizes agriculture, does not reconcile with standard published data like the national capital flow matrix. Finally, one purpose of the present research was to establish a method for updating Kansas multipliers with a greater frequency than full-survey methods would allow.

19. Garhart and Giarratani [1987] discuss the critical role of trade data and give citations.

20. See Bourque [1988] and citations therein for comparisons of location quotients to full survey models.

21. The multiplier derivation and formula is given in Burress and Clifford [1988]. More detailed documentation on the model and data are given in Oslund, Thissen, and Thissen [1988]; and Burress, Oslund, and Thissen [1988].

22. As discussed above, Burress and Clifford [1988] found that the KLTM multipliers presented here differ by some 30 percent from corresponding econometric multipliers. Using a model with a structure similar to the Kansas Long-Term Model but with much superior data, Conway [1988] found that long-run income multipliers appeared to be more accurate, perhaps within 10 percent. Conway [1977] found that Type I multipliers may drift by 10 percent over time. Bourque [1988] found that a top-down model similar to the Kansas Long-Term Model may have average errors of 15 to 20 percent as compared to a direct survey model. See also citations therein.

23. In other words, I believe that multipliers measured according to the methodology used here have the following property: if a large sample of post-impact studies were carried out, where each study attempted to measure the actual total effect of a substantial change in the exports of one industry, then the mean absolute percent error between the study results and predictions based on these multipliers would be less than 35 percent.

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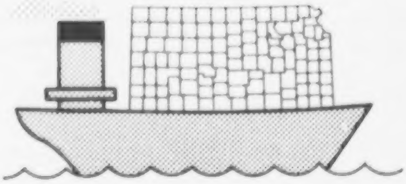
The Role of Kansas in U.S. Exports



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Economic development can be promoted in many different ways. In general, however, a state can increase its wealth by increasing its exports, by producing import substitution goods, or by attracting foreign investments. This paper focuses on how Kansas can increase exports and foreign investment.

Several measures for promoting exports and attracting foreign firms to Kansas were recommended in the 1986 *Kansas Economic Development Study*, by Anthony Redwood and Charles Krider.[1] The study recommended that export assistance programs be created to aid small and medium-sized firms, that an international trade division be established in the Kansas Department of Commerce, and that increased efforts be made to attract foreign firms to Kansas.

The 1986 Kansas legislature did establish the Division of Trade Development within the Kansas Department of Commerce and a foreign trade office in Europe and Japan. This year the legislature passed a bill establishing an export finance assistance program, but much more could be done to implement these recommendations.

Facts reported in the study suggest several more specific strategies for promoting exports and foreign investment. For example, the study reported that Kansas was one of only ten states that had no Japanese firms in 1986. Clearly the Japanese are interested in investing in the United States, so attracting them to Kansas is a matter of finding what the state can offer.

There are several indications that Japanese firms could benefit by processing food in Kansas for Japanese markets. One of the bigger Japanese producers of soy sauce, the Kikkoman Corporation, has been located in Wisconsin for many years. Already Japan is a major importer of Kansas grains and has been over the past few decades. If Japanese firms were to process the grains in Kansas, they would enjoy ample supplies of raw materials, cheaper bulk transportation costs, and easy access to the U.S. Grain Marketing Research Laboratory and world-renowned food and grain technology in Manhattan, Kansas.

The *Kansas Economic Development Study* also indicates that small private aircraft manufacturing in the Wichita area is important to the Kansas economy. As Asian and Latin American nations become more prosperous, joint ventures or other forms of direct investment in manufacturing aircraft for export may attract their capital.

This short report will examine available export data for the United States and relate these data to potential for Kansas exports.

U.S. Exports

Table 1 shows the dollar value of U.S. exports to each continent from 1980 to 1987. From 1980 to 1985, U.S. total exports declined in spite of expanding world trade, but in 1986 the upward trend began. Export figures for the first three months of 1988 indicated that 1988 exports would exceed $300 billion. Table 1 also shows that Kansas's trade offices were well located: added together, exports to Asia and Europe exceeded $145 billion (out of $254 billion total exports) in 1987.

The countries that were leading importers of U.S. manufactured goods in 1986 are shown in Table 2. As the table also shows, many of these nations had phenomenal trade surpluses against the United States. In the countries where exports to the United States significantly outweigh U.S. imports, we would expect national currencies to rise against the dollar, making U.S. goods cheaper. This has indeed been the case in Taiwan, for example, where exports to the United States are more than triple U.S. imports, and the Taiwan dollar has appreciated almost 33 percent since 1985. Kansas businesses can take advantage of the low dollar and focus on markets with trade surpluses against the United States.

Although total U.S. merchandise exports did not grow between 1980 and 1985, Table 3 shows that exports of some types of products did increase. These figures indicate that the United States may have a comparative advantage over other countries. As a result, U.S. transportation equipment, electric and electronic products, instruments, and petroleum and coal products can compete in world markets. Kansas businesses should examine these industries for export potential.

Profile of Kansas Exporters

In 1988 the Institute conducted a survey of Kansas exporting and nonexporting businesses.[2] It described the sample survey results of 201 exporting firms. In general, exporting businesses are small; 73 percent have fewer than a hundred employees. The average Kansas export firm exports only 13.4 percent of its production. Most Kansas exporters export principally to just seven countries:

Table 1
U.S. Merchandise Export Destinations, 1980-1987
(in millions of dollars)

Continent	1980	1984	1985	1986	1987
Africa	9,060	8,827	7,388	5,978	6,283
Asia	60,168	64,533	60,745	64,532	73,268
Oceania	4,876	5,745	6,399	6,659	6,526
Europe	71,372	62,207	59,978	63,631	71,917
N. America	56,737	65,159	67,249	74,640	81,759
S. America	17,377	11,050	11,022	11,950	13,036
Total	220,783	217,888	213,146	227,159	254,122

Sources: Data for 1986 and 1987 are from U.S. Department of Commerce, *Bureau of Economic Analysis, Survey of Current Business*, Vol. 68, No. 6 (Washington, DC: U.S. Government Printing Office, June 1988) S-16. Data for prior years are from U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States 1988* (Washington, DC: U.S. Government Printing Office, December 1987) pp. 770-773.

Note: Totals include revisions not carried to area values. Therefore the values will not add to equal the total.

Table 2
Major Importers of U.S. Merchandise, 1986
(in millions of dollars)

	U.S. Imports	Exports to U.S.	U.S. Balance
Canada	45,333	68,253	-22,920
Japan	26,882	81,911	-55,029
Mexico	12,392	17,302	-4,910
United Kingdom	11,418	15,396	-3,978
West Germany	10,561	25,124	-14,563
Netherlands	7,848	4,066	3,782
France	7,216	10,129	-2,913
South Korea*	6,355	12,729	-6,374
Taiwan*	5,524	19,791	-14,267
Benelux	5,399	4,006	1,393
Italy	4,838	10,607	-5,769
Brazil	3,885	6,813	-2,928
Saudi Arabia	3,449	3,612	-163
Singapore*	3,380	4,725	-1,345
Venezuela	3,141	5,097	-1,956
Hong Kong*	3,030	8,891	-5,861
Switzerland	2,977	5,253	-2,276

Sources: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States 1988* (Washington, DC: U.S. Government Printing Office, December 1987) pp. 770-773.

*Asian newly industrialized countries.

Canada	23 percent
Japan	9 percent
Australia	8 percent
Mexico	6 percent
England	5 percent
West Germany	5 percent
France	4 percent

Only 2 percent named Taiwan as a principal export destination, and fewer than 1 percent named South Korea. This tells us that Kansas exporters really have to promote exports to the Asian newly industrialized countries, especially Japan, Taiwan, and South Korea. After 1992, when the European Economic Community becomes more unified, it will be more difficult for U.S. exports to compete in Europe.

The report also says that most Kansas exporters, 54.7 percent, see great potential for export expansion, but only 39 percent have ever attended a foreign trade fair. Nevertheless, two-thirds of them would attend foreign trade fairs if part of the cost were paid by state government. It may be that smaller firms do not have the resources to send representatives to trade fairs.

Table 4 shows that although Kansas may have some handicaps when it comes to exporting (eg. location far from ports) many Kansas businesses do export. Information in the table is taken from *Kansas Manufacturing Firms in Export*, a directory published by the Trade Development Division of the Kansas Department of Commerce. According to the directory, in each sector about 75 percent of the firms have fewer than a hundred employees, with the exception of paper and allied products, where most firms are larger. The directory lists more than a hundred Kansas firms that already export printed materials, and Table 3 indicates that U.S. exports from this sector are growing slightly. There may be more potential in this area for Kansas publishers.

Summary and Implications

Product Potential

As mentioned already, the location of Kansas is not an advantage to its exporting businesses. With new developments in container shipping and in-

Table 3
U.S. Products Exported, 1980-1986 (in millions of dollars)

SIC		1980	1984	1985	1986
01	Ag. products	29,238	26,770	19,199	15,088
02	Livestock & produce	715	646	735	740
12	Bituminous coal	4,529	4,091	4,400	3,864
20	Food & kindred products	12,124	11,067	10,055	11,250
22	Textile mill products	2,488	1,541	1,462	1,653
23	Apparel, etc.	1,620	1,065	1,019	1,213
24	Lumber, etc.	3,695	2,699	2,668	3,018
25	Furniture, etc.	476	546	483	466
26	Paper, etc.	4,670	4,322	3,886	4,479
27	Printing & publishing	1,115	1,378	1,250	1,298
28	Chemicals, etc.	21,095	22,249	21,797	22,562
29	Petro & coal products	2,849	5,113	5,433	4,228
30	Rubber & plastic	2,675	2,936	2,765	2,941
31	Leather & products	510	526	478	521
32	Stone, clay, glass	1,922	1,904	1,792	1,723
33	Primary metal	11,491	5,360	4,747	4,803
34	Fabricated metal	6,927	6,530	5,765	5,542
35	Machinery	38,084	37,268	37,478	36,358
36	Electric & electronics	16,354	20,164	18,908	20,415
37	Transportation	29,206	32,173	38,024	37,977
38	Instruments	7,690	8,684	8,623	9,237
39	Misc. manufacturing	2,888	1,895	1,773	2,080

Source: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States 1988* (Washington, DC: U.S. Government Printing Office, December 1987) p. 779.

creased air freight capacity, however, foreign markets are much more accessible to Kansas business than they were a decade ago. Still, Kansas's location does not give its businesses a comparative advantage in world trade.

Nor can Kansas compete with the rest of the world in labor-intensive manufacturing. Compared with the countries that lead the world in labor-intensive manufacturing, the Kansas labor force is small and well paid. Kansas can, however, compete in land-intensive production like agriculture. There is also potential in specialized manufacturing. The fact that Kansas has nearly 400 machinery products exporters and 100 printing and publishing exporters is some indication of the level of activity in these types of production.

The focus for Kansas export growth does not have to be employment, since population is growing rather slowly in the state. Rather, the focus should be on exporting high-volume products and on increasing the value added to products before they are exported. For example there may be opportunities relating to the state's well-developed meat packing industry. Although Kansas is a major beef producer, its leather and leather products industry is small. Processing cowhides in Kansas would increase the value added to the product, and if the leather produced is competitive on world markets, export revenues will increase.

Target Asia

Geographically, the future for Kansas exports lies in Asia. Asian exports to the United States have expanded drastically, but U.S. exports have been hampered by Asian nations' tariff and non-tariff barriers. Their trade surpluses are so large, however, and their accumulations of international reserves so imposing, that they are under pressure to open their markets. Certainly Asia offers better market potential than the poor nations of Africa, the debt-loaded countries of South America, or the nations of the unified European Economic Community.

The Kansas trade office in Tokyo should be branched out to other parts of Asia. The effectiveness of trade office export promotions must be closely monitored. Success should be measured by the number of new contracts signed, the number of new buyers located, and by the increased dollar value of exports resulting from the efforts of the office and its representatives. As mentioned above, Kansas exporters are basically small, so government assistance is particularly useful.

Since the Asian market is relatively new to Kansas, the potential for exporting specific products is yet undiscovered; Kansas may become a major exporter. To illustrate how newly discovered demand may produce unexpected export value, we may point out that deer horns, which in the past were discarded, are now a sizable export of deer hunting states. Another example is ginseng root, which grows wild in Ohio and Wisconsin. Ginseng root is a high-priced staple and an important medicinal product for over one billion orientals. A few Taiwanese ginseng farmers in Wisconsin export from five to ten million dollars worth of ginseng per year. Cattle gallstones are another example of a new and perhaps unexpected export product: Chinese importers will pay a few thousand dollars per pound.

Regardless of what avenues of export promotion are chosen, state agencies should begin by gathering information. The meager statistics available from the Trade Division of the Kansas Department of Commerce indicate that export promotion in Kansas is in its preliminary stages. There are many meaningful studies researchers or marketing specialists could perform to target Kansas exports. The Trade Division already surveys Kansas businesses in

Table 4
Products of Kansas Export Firms

SIC		Number of Firms	SIC		Number of Firms
20	Food & kindred products	83	31	Leather & leather products	8
22	Textile mill products	1	32	Stone, clay, glass	25
23	Apparel	32	33	Primary metals	25
24	Lumber & wood products	22	34	Fabricated metal products	143
25	Furniture & fixtures	30	35	Machinery	281
26	Paper & allied products	21	36	Electrical & electronic equip.	79
27	Printing & publishing	100	37	Transportation equip.	75
28	Chemicals & allied products	72	38	Instruments	50
29	Petroleum & related products	8	39	Miscellaneous	45
30	Rubber & plastic products	71			
	Total	1,171			

Source: Kansas Department of Commerce, Trade Development Division, *Kansas Manufacturing Firms in Export 1988-89* (Topeka, Kansas: Kansas Department of Commerce, 1989).

order to produce *Kansas Manufacturing Firms in Export;* perhaps the project could be extended to include questions on export volume and markets. These results could be reported in a way that protected trade secrets.

Notes

1. Anthony Redwood and Charles Krider, *Kansas Economic Development Study*, Monograph Series no. 108 (Lawrence, Kansas: Institute for Public Policy and Business Research, June 1986).

2. Steven Maynard-Moody and William Cheek made a telephone survey of Kansas exporting and non-exporting business in Kansas for Institute for Public Policy and Business Research Monograph Series no. 154.

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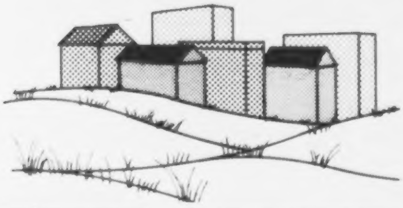
Retail Sales in Rural Kansas Communities



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Recently retail sales in Kansas's rural communities have been decreasing. Between 1982 and 1987 rural counties showed a dramatic drop in trade. Using a measure called a pull factor, it was possible to document that the state's retail activity was shifting away from rural areas.[1] Other research has tracked sales decline in agriculturally based counties for the period 1979 to 1985.[2] Also, a review of a time series set of data on retail sales produced at Wichita State University shows that real retail sales decreased in as many as twelve out of fourteen years in rural Kansas counties.[3] This loss of trade in rural areas is a long-term trend. The weight of the evidence shows that retail activity in the Midwest and Great Plains is gradually moving from small towns to larger towns.[4]

Although the trend is clear, we know that people still want to buy many goods and services close to home for the sake of convenience. We compiled a data set to address the following questions:

1. What goods and services do people choose to buy locally rather than out of town?

2. What motivates people to buy locally rather than out of town?

The Data Set

The Community Development Unit of the Cooperative Extension Service has helped many communities with a surveys of local households designed to provide some background information for community development efforts. Usually the survey includes questions asking citizens where they shop, what they buy, and what their motivations are. These surveys were locally initiated and implemented, and sampling methods and sample sizes were sometimes determined by practical considerations rather than by the more rigorous standards of scientific research. The results are interesting, however, because they show patterns that are consistent across communities.

The following report covers data from surveys of twenty-three communities, ranging in size from Independence (10,370 people) to Attica (766 people).

Findings

Leaders and shopkeepers in small rural communities are overly concerned about the loss of trade in goods. They remember when people were less mobile and had less opportunity to travel to a major metropolitan area or even the nearest city with a regional mall. Of course, malls are a relatively new development and malls in towns the size of Manhattan are even newer. Today, however, people have many reasons to travel and more time to do so. They travel for both business and pleasure. They travel to take their children to college, their aging parents to regional medical facilities, and their families to a city for a Christmas shopping outing. Finally, they travel and shop as recreation.

Retailers in small towns cannot stock a variety of goods to meet every need and desire. The smallest communities can only support businesses that provide the most basic services and goods. For example, a cafe can be supported by a population of under 600 people, and all the communities surveyed had at least one. Beauty shops and gas stations and car repair services also exist in the smallest and remotest places in Kansas. But jewelry stores must be supported by a much larger population: at least 3,000 people are needed to support even a small jewelry store. Department stores need a population of at least 11,000 people, and a specialty store devoted to smoking products now must be located in cities with trade-area populations over 100,000.

Thus, when people were asked why they shop out of town and they were given the choices of price, selection, convenience, service, and quality, it came as no surprise that respondents said they leave town to find a wider selection; their second reason was to find lower prices. This is confirmed by the data in Table 1, which show that where selection and price are important, more of the product is purchased out of town. On the other hand, Table 1 shows that when residents are making a purchase where convenience or service is important, choosing a plumber for example, more of the trade will be within the community.

Many of the products that respondents select because of service and convenience represent a relatively substantial part of a household's budget and probably generate more economic activity in the community than sales of shoes or clothes. For example, most people spend more for car repairs than for shoes.

Table 1
Shopping Patterns in Twenty-Three Small Kansas Communities

Product	Average Percent Bought Locally	Communities Asking About Product	Prime Motivation	Second Motivation
Shoes	20.4	23	selection	price
Clothes for children	25.7	23	price	selection
Clothes for men	26.6	23	selection	price
Clothes for women	27.3	23	selection	price
Sporting goods	33.4	23	selection	price
Discount/variety items	40.0	9	price	selection
Books and magazines	42.7	19	convenience	selection
Furniture	43.0	23	selection	convenience
Crafts products	44.9	13	selection	convenience
New and used vehicles	46.9	23	convenience	price
Electrical appliances	54.4	23	convenience	price
Optometrist's services	56.9	16	convenience	service
Restaurant meals	61.9	23	convenience	selection
Photography	61.9	10	convenience	price
Dental services	64.1	23	convenience	service
Over-the-counter medicine	68.4	17	convenience	price
Lawn and garden products	64.2	12	convenience	price
Physician's services	69.7	23	convenience	service
Accounting/bookkeeping	70.2	18	convenience	service
Tobacco products	70.4	13	convenience	price
Groceries	71.7	23	convenience	price
Auto and truck parts	72.4	21	convenience	price
Lumberyard products	73.1	23	convenience	price
Prescription medicine	75.1	22	convenience	price
Hardware items	75.6	23	convenience	price
Vehicle repairs	75.8	23	convenience	service
Insurance	78.6	23	convenience	service
Florist	79.9	10	convenience	service
Agricultural inputs	79.9	17	convenience	service
Alcoholic beverages	81.1	13	convenience	price
Hair care	82.6	21	convenience	service
Banking services	85.4	23	convenience	service
Fuel for vehicles	87.8	19	convenience	service
Plumbing services	89.6	13	convenience	service

As one would predict, citizens of large communities were more likely to shop in their own communities, and citizens of small communities were more likely to shop out of town. Another pattern found was that the older people are, the more likely they are to shop locally. Price is less important to older people, and service and convenience are more important, even for clothes and shoes.

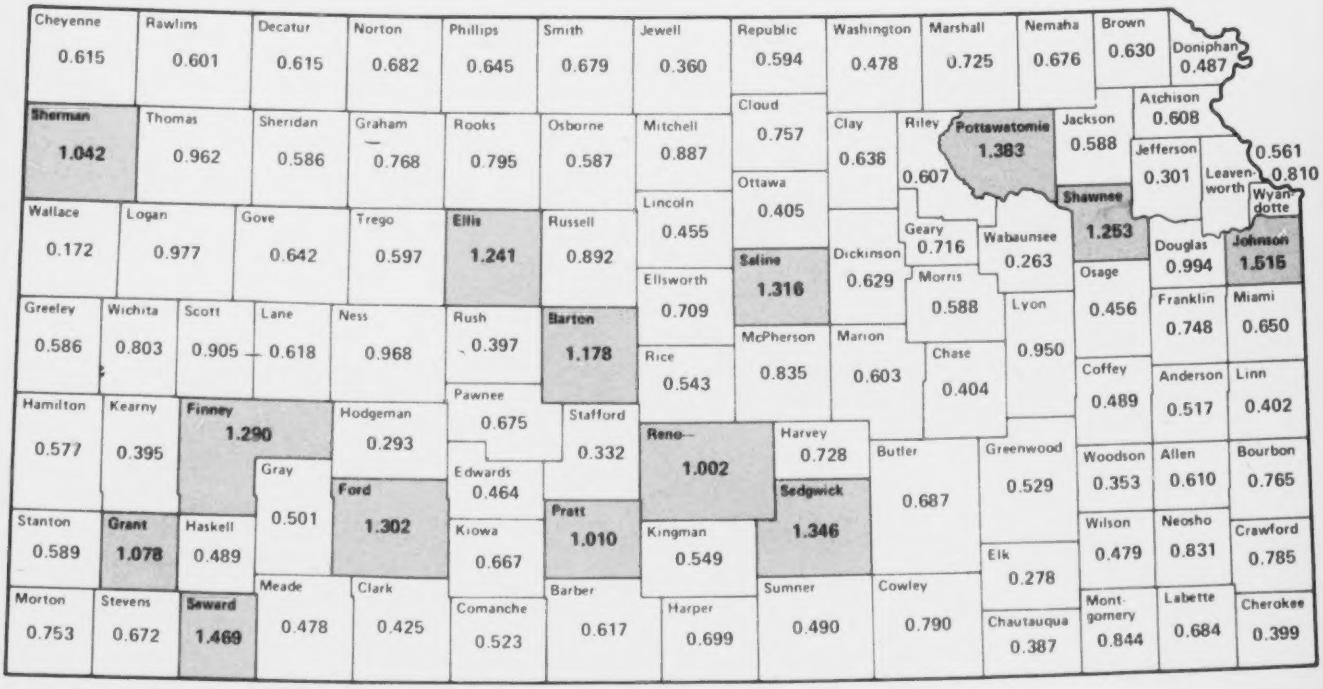
Conclusion

As expected, citizens living in small towns do not want to make all their purchases out of town. Of the thirty-four items in the analysis, presented in Table 1, only ten were bought out of town at a rate higher than 50 percent. Eight out of ten of these items are not the costliest items in the household budgets of Kansans. The exceptions would be expenditures on vehicles and discount store purchases. If a car or truck is financed through a local bank in the citizen's town, however, then the bank may make more money on the car than the out-of-town car dealer. A discount department store will change shopping patterns. It is far better to have one in your town than in the next town.

What has been uncovered is that people want and expect to buy most services and a high proportion of goods locally. They shop locally because it is convenient. They also expect to receive good service from local merchants. They shop out of town to find either items they cannot find locally or a better selection of items than are available locally. They also shop out of town to find lower prices.

It is important to remember that while dollars flow from rural communities to larger cities, they can also be made to flow from larger cities into small communities if those small communities can

Figure 1
County Pull Factors: July 1987 through June 1988



Cheyenne
0.615
Rawlins
0.601
Decatur
0.615
Norton
0.682
Phillips
0.645
Smith
0.679
Jewell
0.360
Republic
0.594
Washington
0.478
Marshall
0.725
Nemaha
0.676
Brown
0.630
Doniphan
0.487
Cloud
0.757
Atchison
0.608
Sherman
1.042
Thomas
0.962
Sheridan
0.586
Graham
0.768
Rooks
0.795
Osborne
0.587
Mitchell
0.887
Clay
0.636
Riley
0.607
Pottawatomie
1.383
Jackson
0.588
Jefferson
0.301
Leaven-worth
0.561
Wyandotte
0.810
Ottawa
0.405
Lincoln
0.455
Shawnee
1.253
Wallace
0.172
Logan
0.977
Gove
0.642
Trego
0.597
Ellis
1.241
Russell
0.892
Saline
1.316
Dickinson
0.629
Geary
0.716
Wabaunsee
0.263
Douglas
0.994
Johnson
1.516
Morris
0.588
Osage
0.456
Ellsworth
0.709
Greeley
0.586
Wichita
0.803
Scott
0.905
Lane
0.618
Ness
0.968
Rush
0.397
Barton
1.178
Rice
0.543
McPherson
0.835
Marion
0.603
Chase
0.404
Lyon
0.950
Franklin
0.748
Miami
0.650
Coffey
0.489
Anderson
0.517
Linn
0.402
Hamilton
0.577
Kearny
0.395
Finney
1.290
Hodgeman
0.293
Pawnee
0.675
Stafford
0.332
Reno
1.002
Harvey
0.728
Butler
0.687
Greenwood
0.529
Woodson
0.353
Allen
0.610
Bourbon
0.765
Gray
0.501
Edwards
0.464
Ford
1.302
Pratt
1.010
Sedgwick
1.346
Stanton
0.589
Grant
1.078
Haskell
0.489
Kiowa
0.667
Kingman
0.549
Elk
0.278
Wilson
0.479
Neosho
0.831
Crawford
0.785
Morton
0.753
Stevens
0.672
Seward
1.469
Meade
0.478
Clark
0.425
Comanche
0.523
Barber
0.617
Harper
0.699
Sumner
0.490
Cowley
0.790
Chautauqua
0.387
Mont-gomery
0.844
Labette
0.684
Cherokee
0.399

Source: Kansas Department of Revenue.
Note: A pull factor is the per capita county sales tax collection divided by the per capita state sales tax collection. The shaded areas show counties where sales tax collections are average or above average for the state.

imaginatively package a set of desirable experiences along with attractive merchandise and services. The growing tourist industry has attracted millions on this formula: good food, interesting specialty shops, and services sold in an interesting environment so that people think of their visit as a pleasant and memorable experience. Some small communities have been building their economies in this fashion for years.

Local merchants should be concerned about the following:

1. The economic base of rural areas is weakening, and people are leaving to find jobs elsewhere;

2. The average age of the local merchants is increasing, and there are few willing and able young people to buy out the businesses and keep them running; and

3. In communities where the downtown has not been modernized and people are discouraged by the appearance of the shopping area, they will go elsewhere to shop.

One way to assess the strength of the business community is to review the pull factor shown in Figure 1 for your county. A pull factor approaching 1.00 indicates that local merchants are tapping their trade area's potential. A pull factor of less than 1.00 indicates that people are spending a part of their household income in another county. A pull factor that is greater than 1.00 indicates that the community of businesses in a county are attracting trade from other counties.

Notes

1. James Vassar and David Darling, "Kansas's County Pull-Factor Analysis: 1982-1987," Kansas Business Review 11, no. 1 (Lawrence, Kansas: Institute for Public Policy and Business Research, Fall 1987) pp. 17-20.

2. Jan Flora and Cornelia Butler Flora, "The Effects of Different Production Systems, Technology Mixes, and Farming Practices on Farm Size and Communities," in *The Impacts of the Conservation Reserve Program in the Great Plains Symposium Proceedings*, General Technical Report RM158 (Fort Collins: USDA, 1988) pp.75-83.

3. David Poynter, *Business and Economic Report* 17, no. 2 (Wichita State University: Center for Economic Development and Business Research, June 1988) pp. 16-20.

4. Kenneth Stone, "Impact of the Farm Financial Crisis on the Retail and Service Sectors of Rural Communities." Presented at the American Agricultural Economics Association Symposium on Farm Debt Stress, Kansas City, Missouri, November 1986.

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___Kingman
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___Mitchell
___Montgomery
___Morris
___Morton
___Nemaha
___Neosho
___Ness
___Norton
___Osage
___Osborne
___Ottawa
___Pawnee
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Economic Outlook for Kansas and the Nation

Norman Clifford

National economic growth will slow in 1989, as capacity constraints, a tighter labor market, the threat of higher inflation, and increased uncertainty all act to dampen the pace of economic activity. A strong response by the Federal Reserve Board to signals indicating inflationary pressures will reinforce the tendency of the economy to slow down and cause interest rates, especially short-term rates, to increase dramatically over the course of the year. The remaining growth of the economy will occur as the result of another year of strong export growth, stimulated by healthy growth of our overseas trading partners and a dollar that continues gradually to weaken. In spite of Federal Reserve Board efforts, inflation will be about 2 percentage points higher this year than last. Personal income adjusted for inflation will grow only 2.5 percent, a little more than half last year's rate.

The Kansas economy will also slow somewhat in the coming year. Nonfarm employment will grow only half as fast as it did in 1988. Manufacturing employment will also grow at only half its 1988 rate, as higher interest rates and uncertainty about the future act to reduce growth in the durable-goods producing industries. The Kansas unemployment rate, however, will hover just under 5 percent for the third straight year. Kansas personal income adjusted for inflation will grow only 0.4 percent. These are the highlights of the national and Kansas forecasts developed at the Institute for Public Policy and Business Research and presented below.[1]

The National Economy

The strength of the national economy in 1988 surprised most forecasters. Revised figures for the year show a real growth rate of 3.9 percent even though performance during the latter part of the year was dampened by the effects of the drought in many parts of the country. Nonfarm employment (including government employment) grew 3.5 percent compared to 2.6 percent the previous year. Total civilian employment grew 2.3 percent. The unemployment rate averaged 5.4 percent for the year, dropping to 5.3 percent by the fourth quarter. The rate of inflation as measured by the rate of change of the consumer price index was 4.1 percent, up only slightly from 3.7 percent in 1987. Wages, a source of inflationary pressures, were up only 5 percent after increasing 4.6 percent in 1987. Real after-tax income grew 3.8 percent compared to 1.7 percent during the previous year.

It is not difficult to pinpoint the two major sources of the strength of the national economy during 1988. First, real investment spending by firms took off during the year. Following lackluster growth of 2.8 percent in 1987 aggregate demand in this category grew 9.5 percent in 1988. Growth was concentrated in equipment purchases, which grew 13.4 percent. But real investment spending by firms on structures, as well as residential investment, remained flat. Second, real exports, which had grown a robust 13.1 percent in 1987 as the dollar fell 13.7 percent,[2] performed even better in 1988, growing 18 percent as the dollar fell even further and the economies of our major trading partners grew stronger.

The other two broad categories of spending, consumer spending and government spending, contributed much less to the economy's 1988 growth. Real consumer spending, dampened by a weak 1 percent growth in spending on nondurable goods, grew only 2.8 percent in spite of a 3.8 percent increase in disposable income. Real spending by governments at all levels remained flat in 1988: a 2.8 percent growth in state and local government spending was nearly offset by a 3 percent decrease in federal government spending. The decrease in federal government spending was brought about mainly through decreases in nondefense spending, which fell 9.6 percent for the second consecutive year.

Unfortunately for the outlook for 1989, the 1988 picture was not all rosy. In fact, revised figures for the fourth quarter suggest that the economy was beginning to slow down. Real GNP grew only 2.4 percent (annual rate) in that quarter, although some of the slowdown is attributable to the effects of the drought. Real investment spending, which grew so dramatically during the first three quarters of the year, actually declined at a 2.9 percent annual rate in the fourth quarter. This decline was caused by a 3.5 percent decline in equipment purchases by firms. Real export spending grew only 6.5 percent (annual rate) in the forth quarter compared to its 18 percent growth for the year. Consumer spending grew at a 3.5 percent annual rate for the quarter due mostly to a 6.1 percent increase in spending on durable goods. Roughly half of the increase in consumption spending was increased spending on imports, which grew at a 13.5 percent annual rate during the quarter. And, although the inflation rate remained a modest 4.3 percent during the last quarter of 1988, wages rose at a 6.1 percent annual rate, suggesting that inflationary pressures may be building.

Many of the features of the economy's performance at the end of 1988 are reflected in our forecast of the national economy for 1989 presented below. The forecast is based on the following major assumptions:

1. The Federal Reserve will follow a somewhat restrictive monetary policy throughout 1989. Interest rates will be allowed to rise and the economy will be allowed to slow, in the hope that inflation can be kept under control. M2 will grow only 3.8 percent, compared to 5.1 percent in 1988.
2. Fiscal policy will also be somewhat restrictive. Federal spending will be declining slightly during the year. As transfer payments and interest rates rise, the Federal budget deficit will increase slightly.
3. A trade weighted average of the dollar exchange rate will decline a modest 3 percent
4. The real growth rate of the other OECD countries' will average 3.3 percent.
5. Improved harmony among the OPEC countries will continue throughout the year and oil prices will increase about 10 percent during the year.

In 1989 growth of the national economy will slow significantly from its 1988 pace. Real GNP will grow only 2.2 percent. In the first quarter, GNP growth will continue to be fairly strong (above 3 percent annual growth rate), but growth will slow noticeably beginning in the second quarter and continuing throughout the rest of the year.

The leading sector of the economy in 1989 will be real exports, also a strong sector in 1988. This strength will derive from healthy growth among our overseas trading partners and the continuing decline of the dollar. Real export demand will grow 7.9 percent in 1989, and although this is less than half of 1988's growth rate in this category, it is still a significant force for 1989 economic growth.

In a major change from 1988, nonresidential fixed investment will no longer be a major driving force in the economy in 1989. Spending in this category will increase only 1.9 percent for the year. All of the increase will occur in spending on equipment, which will increase 3.0 percent. The forecasts of growth rates of GNP, nonresidential fixed investment, and exports are shown in Figure 1.

Another way to see the effects of reduced export and investment growth is to look at the contribution to economic growth due to these two sectors in 1988 and 1989. In 1988, export growth accounted for a 2.0 percent increase in real GNP, more than half of the total increase in GNP for the year. In 1989, however, export growth will account for only a 1.0 percent increase in GNP. In 1988, growth in investment spending accounted for a 1.1 percent increase in GNP; in 1989 increases in investment spending will contribute only a 0.2 percent increase in GNP. Thus, these two sectors, which altogether accounted for a 3.1 percent increase in GNP out of a total increase of 3.9 percent in 1988, will account for only a 1.2 percent increase in GNP in 1989.

The largest sector of the economy, consumer spending, will not change so drastically in 1989. Real consumer spending will increase 2.2 percent in 1989 compared to 2.8 percent in 1988. In terms of contributions to growth, increases in consumption spending will contribute a 1.4 percent increase in GNP compared to a 1.9 percent contribution last year. The biggest change in consumption spending will occur in durable goods, which will grow only 0.9 percent in 1989 after increasing 4.8 percent in 1988, reflecting higher interest rates and perhaps some increased uncertainty by consumers over the outlook for the economy. In particular, spending on motor vehicles and parts, which makes up nearly half of consumer spending on durable goods, will grow by 1.0 percent after increasing 4.3 percent in 1988. Spending on furniture and household equipment, which accounts for another two-fifths of durable goods spending, will increase only 0.5 percent after increasing 6.5 percent in 1988.

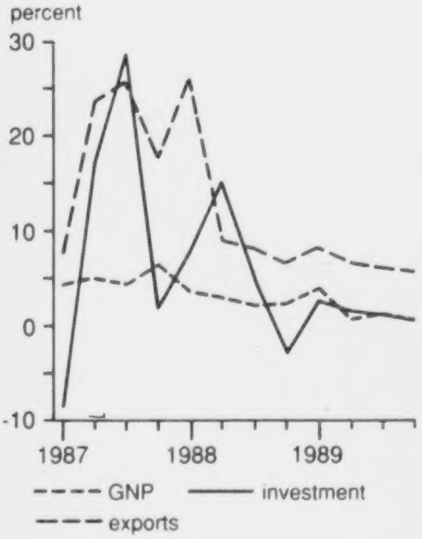
Growth in consumer spending on services will also decline somewhat in 1989, falling to 3.0 percent from 3.5 percent in 1988. On the other hand, some of the reduced growth of spending on durable goods will be transferred to spending on nondurable goods; spending on nondurable goods will increase 1.7 percent in 1989 compared to 1.0 percent in 1988. Spending on food, which makes up half of nondurable goods spending, will increase 1.3 percent following a 0.6 percent increase last year, while spending on clothing and shoes will increase 2.0 percent after increasing 0.3 percent in 1988. Gas and oil purchases will increase 4.7 percent this year compared to 1.3 percent in 1988, and purchases of fuel oil and coal will grow 1.6 percent following 1988's 6.3 percent increase.

The fourth major category of GNP, government purchases of goods and services, will grow 2.3 percent in 1989 compared to a nearly flat 0.3 percent in 1988, most of the growth coming from increased state and local government spending. Federal defense purchases will decline another 2.1 percent after falling 1.2 percent in 1988. Federal nondefense purchases will increase 12.1 percent following a 9.7 percent decrease in 1988 and a 9.6 percent decrease in 1987. On the other hand, state and local government purchases, which make up nearly three-fifths of total government purchases of goods and services, will grow 3.4 percent compared to 2.8 percent in 1988.

The slowdown in the economy and higher interest rates mean that there will be some deterioration in the federal government's budget deficit after two years of improvement. The essentials of this deterioration can be seen by noting that interest payments will increase by $16 billion and transfer payments will increase by $31 billion in current dollars, while personal and corporate profits tax receipts will increase only $29 billion. The end result will be a federal budget deficit of $147 billion in current dollars in calendar year 1989, compared to a $142 billion deficit in calendar year 1988.

The real U.S. trade deficit should improve slightly in 1989 in spite of slower export growth. The slowdown of the economy, the increase in interest rates, and the further fall of the dollar's exchange rate will all work to dampen the growth of imports. Real imports will grow only 6.1 percent in 1989,

Figure 1
Growth Rates
Real GNP, Investment, and Exports



down from 8.7 percent in 1988. Growth of spending on imported petroleum and petroleum products will be 6.6 percent, which is above average but substantially below the 10.9 percent rate for 1988. Spending on the remaining four-fifths of total imports, those other than automobiles and oil, will increase only 5.8 percent compared to 9.4 percent in 1988. As a result, the deficit in real net exports will be reduced $2.9 billion in 1989, to a level of $97.3 billion. This is, of course, a much more modest decline than the $28.7 billion drop in 1988 and the average $18.6 billion decline over the last two years.

Interest rates will continue the rise that began in the second quarter of last year, as the Federal Reserve Board continues to exercise monetary restraint in the hope of controlling inflation. Growth of the M2 measure of the money supply will be only 3.8 percent for the year, well below 5.1 percent for 1988. Tight money growth will continue at least for the first three quarters of 1989, with some easing due in late 1989 or early 1990 at the latest, when the economy shows signs of leveling off. Short-run rates will increase throughout the year, with the average rate of three-month treasury bills at 10.1 percent in the fourth quarter. This will be 2.4 percentage points higher than their average rate of 7.7 percent during the fourth quarter of 1988. The prime rate will be at an average of 13.5 percent during the fourth quarter of 1989, 3.3 percentage points higher than its average during the fourth quarter of 1988. Long-run rates will also rise, although less dramatically than short-run rates, reflecting some degree of confidence on the part of bond holders that inflation will be brought under control. Moody's AAA bond rate will average 10.4 percent during the fourth quarter of 1989, 0.9 percentage points higher than its 9.5 percent average for the fourth quarter of 1988. Interest rate forecasts are shown in Figure 2.

In spite of continued efforts by the Federal Reserve Board to cool the economy, the effects of a tight labor market and high capacity utilization rates will be seen in a significant increase in inflation in 1989. Inflation as measured by the change in the consumer price index will be 6.3 percent, well above the 1988 rate of 4.1 percent and the 1987 rate of 3.7 percent. The largest price increases will occur in the second and third quarters, with the effects of the Federal Reserve Board's restraints finally beginning to take hold by the end of the year. Forecasts for the rate of inflation as measured by the change in the consumer price index, the GNP deflator, and the personal consumption deflator are shown in Figure 3.

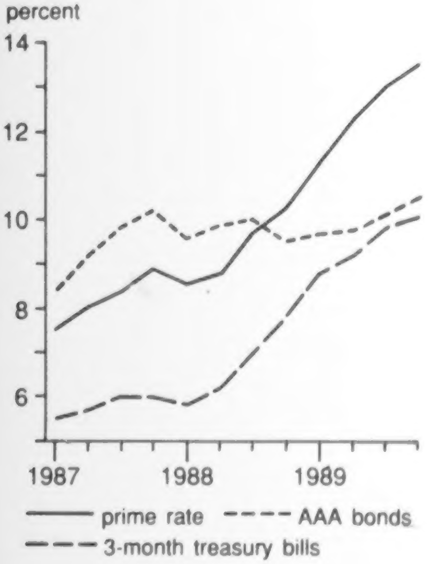
Food prices will increase even faster than inflation, since last year's drought will reduce supply. Over 1989 food prices will increase 7.0 percent. Apparel and upkeep prices will increase 7.2 percent. Higher world oil prices will help increase the cost of transportation 7.7 percent and motor fuel 6.8 percent. The price of medical care will also increase substantially, 8.3 percent for the year. Prices will increase more slowly than inflation for housing (5.4 percent), household furnishings and operations (3.2 percent), and new cars (4.7 percent).

Employment growth will slow as the economy slows in 1989. Nonfarm wage and salary employment will grow 2.7 percent in 1989, compared to 3.5 percent in 1988. Total civilian employment will increase 2.3 percent compared to 2.6 percent in 1988. Even though employment will grow more slowly in 1989 than it did in 1988, it will still grow faster than the labor supply, which will increase 1.3 percent, slightly more than its 1988 increase of 1.0 percent. Thus, the unemployment rate will decline slightly in 1989, falling to 5.2 percent from its level of 5.4 percent in 1988. The unemployment rate should remain steady at about 5.2 percent during the first three quarters of the year, then begin to increase in the last quarter as the economy begins to flatten out. Figure 4 shows the forecast for the rate of nonfarm establishment employment.

Personal income in current dollars will increase 9.1 percent in 1989, compared to 7.5 percent in 1988. After adjusting for inflation, however, real personal income will increase 2.5 percent in 1989, compared to 3.3 percent in 1988. Real disposable personal income will increase only 2.3 percent, compared to 3.8 percent in 1988. Coupled with a 2.2 percent increase in real consumption spending, this 2.3 percent increase in real disposable income means that the savings rate will only increase 0.2 percent. The forecast for U.S. personal income growth is shown in Figure 5, below.

The forecast for the U.S. economy outlined above is based on the most recent data on the history of the economy and on the application of a well-developed econometric model whose construction is founded on well-established statistical principles and practices. Nevertheless, the degree of uncertainty inherent in such a forecast depends not only on the quality of the information and the model, but also on the state of the economy at the time that the forecast is made. Since the economy is operating at a very high level of capacity and the unemployment rate is low, the economy is much

Figure 2
Interest Rates



more sensitive to small shocks than it would be at other times. The Federal Reserve Board's determination to use its imprecise tools to control inflation adds to the current volatility of the economy. Given the additional uncertainties of the timing and the magnitude of the effects of monetary policy, it is quite possible that the Federal Reserve Board could tighten too much or too long and push the economy into a recession before the end of the year. Our best forecast says that this will not happen, but in the present economy, it must be kept in mind that there is much room for error. Since the fate of Kansas economy depends so heavily on the state of the national economy, these remarks apply equally to the Kansas forecast presented below.

The Kansas Economy

The Kansas economy, like the U.S. economy, had a reasonably good year in 1988. Based on revised data, nonfarm establishment employment (including government) grew 2.8 percent. The average for the past two years is 1.9 percent. Total employment grew 0.9 percent and the civilian labor force only grew 0.8 percent, so unemployment averaged only 4.8 percent for the year, a slight improvement over the 4.9 percent in 1987. Nominal personal income grew 6.6 percent in 1988 compared to 5.0 percent in 1987. Real Kansas personal income grew 2.3 percent in 1988, compared to 0.5 percent in 1987.[4]

Looking at some of the sectors of the Kansas economy in more detail, we see that employment in manufacturing, which accounts for about 15 percent of total Kansas employment, increased 3.0 percent in 1988 after growing only 0.2 percent in 1987. This was mainly due to a 4.7 percent increase in employment in durable goods producing industries. Among the most rapidly growing manufacturing industries in 1988 in terms of employment were primary metals (14.4 percent), machinery including electrical (6.5 percent), transportation equipment (4.1 percent), apparel (9.3 percent), and printing and publishing (6.5 percent).

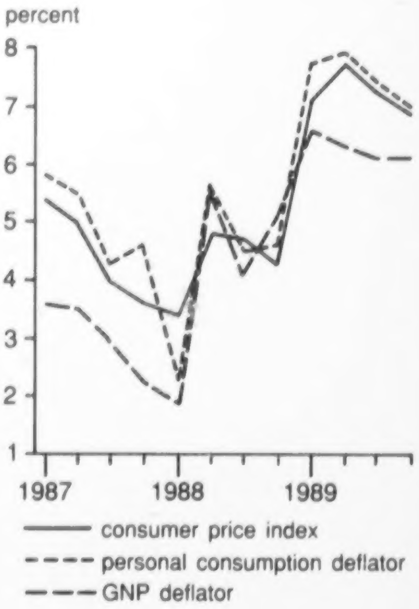
Among the nonmanufacturing sectors with strong employment growth in 1988 were transportation and public utilities (3.3 percent), retail trade (3.6 percent), and services (4.8 percent). Showing less than average growth or decreases in employment during 1988 were mining (-7.5 percent), construction (-7.0 percent), wholesale trade (-2.9 percent), and finance, insurance, and real estate (2.3 percent).

As for the factors influencing the 6.6 percent growth in personal income during 1988, wages and salaries grew 7.4 percent, as did dividends, interest, and rents. Farm proprietors' income grew 12.3 percent, nonfarm proprietors' income grew 3.5 percent, transfer payments grew 5.5 percent, and other labor income grew 4.7 percent.

The Kansas economy will grow more slowly in 1989 than in 1988, much as the U.S. economy will be weaker this year than last. Nonfarm establishment employment will grow 1.4 percent in 1989, or half its 1988 rate of growth. Total employment will grow 0.8 percent, however, very close to last year's rate. The civilian labor force will grow 1 percent for the year, leading to an average unemployment rate of 4.9 percent, the third straight year that the Kansas unemployment rate has averaged under 5 percent. The revised 1988 data as well as our 1989 forecast continue a trend that has been observed in recent years; in general, the Kansas economy moves up and down with the national economy, but Kansas's rate of growth is lower than that of the nation. Forecasts of Kansas and U.S. nonfarm establishment employment rates of growth are shown in Figure 4.

The forecasts for employment growth in various sectors of the Kansas economy mirror some of the features of the U.S. forecast presented above. Growth of manufacturing employment, for example, will drop to 1.4 percent for 1989, as a result of slower growth in durable goods employment (1.6 percent, which is only about one-third of its 1988 growth rate). This drop reflects

Figure 3
Inflation Rates



the effects on Kansas of the increase in interest rates and business and consumer uncertainty that have slowed national growth. As Table 1 shows, employment growth will slow in almost every manufacturing subsector.

Among the nonmanufacturing sectors, employment growth in transportation and public utilities (0.9 percent), retail trade (1.4 percent), finance, insurance, and real estate, (1.7 percent), and services (3.7 percent), will all grow more slowly in 1989 than they did in 1988. Total government employment--in Kansas will be at the same level in 1989 as it was in 1988, with federal government employment decreasing slightly (-1.4 percent) and state and local government employment increasing slightly (0.1 percent). Farm employment will decrease 7.2 percent as a result of some of the continuing effects of the drought. The increase in world oil prices will not be large enough this year to reverse the decline in the mining industry, although this year's 4.7 percent decrease in mining employment is less than two-thirds of 1988's rate of decline. Construction employment will decline 0.3 percent, which will temporarily halt the rapid decline that occurred in 1988 but will leave employment in this sector well below its 1987 level.

Personal income in current dollars will increase 7.0 percent in 1989, but because of higher inflation this will be only a 0.4 percent increase in real terms. Wages and salaries will be up 7.3 percent, nonfarm proprietors' income will be up 8.3 percent, other labor income will increase 6.8 percent, and transfer payments will grow 8.4 percent.

Dividends, interest, and rents will increase 12.3 percent, in part due to the effects of higher interest rates. Farm proprietor's income, which is always difficult to forecast, but especially so now because of uncertainties about the effects of the drought, is predicted to fall 23.4 percent. Figure 5 shows the growth rates of Kansas and U.S. personal income.

Notes

1. The forecasts of the national economy are produced by the Econometric model of the United States using assumptions generated at the Institute. This model was developed at the Center for Econometric Model Research at the University of Indiana, R. Jeffery Green and Morton J. Marcus, directors. The Kansas forecasts are produced by the Kansas Econometric Model, which is a product of the Institute for Public Policy and Business Research.

2. Trade-weighted average of the dollar's exchange rate.

3. Organization for Economic Cooperation and Development. Member nations are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Holland, Iceland, Ireland, Italy, Japan, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

4. Since there is no price deflator that is specific to Kansas, we use the personal consumption deflator for the nation to deflate Kansas income.

Table 1
Kansas Employment Growth: Manufacturing Subsectors

	1988	1989
Food & kindred products	-3.6%	0.6%
Apparel	9.3	-5.2
Printing and publishing	6.5	3.6
Chemicals and allied products	-2.9	-0.2
Petroleum & coal	0.0	-4.3
Stone glass & clay	6.9	6.9
Primary metals	14.4	11.0
Fabricated metals	3.3	2.3
Machinery, including electrical	6.5	3.7
Transportation equipment	4.1	-0.1

Figure 4
Nonfarm Employment Growth

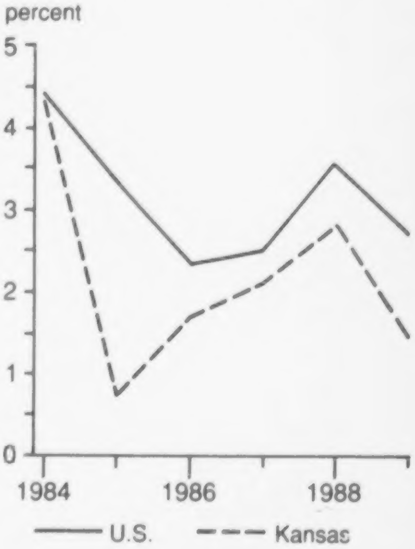
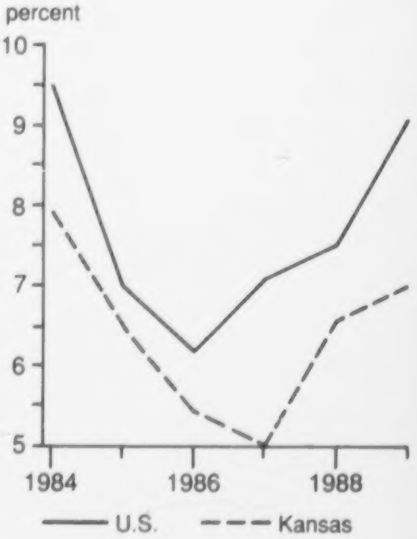


Figure 5
Personal Income Growth



Economic Indicators

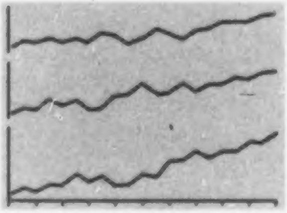


TABLE ONE: ECONOMIC INDICATORS

Comparison Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	% Change From Previous Period	% Change From Year Ago
A. Personal Income - Annual rates, SA						
Kansas - Mil. $	3rd	39997.0	40268.0	37077.0	-0.67	7.88
United States - Bil.$	4th	4185.57	4093.93	3906.77	2.24	7.14
B. Employment						
Kansas - Thou., NSA	4th	1220.25	1217.31	1216.57	0.24	0.30
United States - Mil., SA	4th	115.84	115.20	113.48	0.56	2.09
C. Unemployment Rate						
Kansas - % NSA	4th	4.6	4.6	4.3		
United States - % SA	4th	5.3	5.5	5.9		
D. Retail Sales - Annual rates						
Kansas - Mil. $, NSA	4th	17072.91	18273.80	17218.98	-6.57	-0.85
United States - Bil. $, SA	4th	1652.02	1613.77	1532.73	2.37	7.78
E. Consumer Price Index-U, All items, SA						
Kansas City* - 1982-1984 = 100	JUL-DEC	118.40	116.31	114.6	1.80	3.32
United States - 1982-1984 = 100	JUL-DEC	119.68	117.02	114.82	2.28	4.24
Kansas Indicators						
F. New Incorporations, NSA						
For Profit - Number	4th	995.00	1050.00	1150.00	-5.24	-13.48
G. Tax Revenue, NSA						
General Fund Tax Revenue - Mil. $	4th	508.70	485.50	483.00	4.78	5.32
H. Operating Expenditures, NSA						
General Fund Operating Expenditures - Mil. $	4th	512.10	332.60	421.20	53.97	21.58

*The Kansas City CPI-U is published semi-annually with the first period being January through June average and the second period being July through December average.
National employment and unemployment rate figures are based on the Current Population Survey (household survey).
State figures are based on the Current Employment Statistics Survey (establishment survey).
NSA-Not seasonally adjusted.
SA-seasonally adjusted.

SOURCE: BEA, BLS, Ks. Dept. of Human Resources, Ks. Secretary of State, Ks. Dept. of Administration, Ks. Dept. of Revenue.

TABLE TWO: NATIONAL INDICATORS
(Seasonally Adjusted)

General Indicators	Quarter or Month	Current Period	Previous Period	Year Ago	% Change From Previous Period	% Change From Year Ago
A. Income Measures, Annual rates						
Gross National Product - Bil. 82$	4th	4029.70	4009.40	3923.00	0.51	2.72
Disposable Personal Income - Bil. 82$	4th	2833.13	2800.40	2728.87	1.17	3.82
Personal Consumption - Bil. 82$	4th	2626.00	2603.80	2531.70	0.85	3.72
Gross Private Investment - Bil. 82$	4th	715.10	726.10	724.70	-1.51	-1.32
Net Export of Goods and Services - Bil. 82$	4th	-103.30	-93.90	-126.00		
Government Purchases - Bil. 82$	4th	791.80	773.50	792.60	2.37	-0.10
Savings Rate - %	4th	4.60	4.20	4.03		
B. Labor Force						
Civilian Labor Force - Mil.	DEC	122.56	122.51	120.70	0.04	1.54
Employed - Mil.	DEC	116.01	115.95	113.74	0.05	1.99
Unemployed - Mil.	DEC	6.55	6.56	6.96	-0.14	-5.85
Unemployment Rates - percent						
All	DEC	5.30	5.40	5.80		
Women	DEC	5.40	5.30	5.90		
Men	DEC	5.30	5.40	5.70		
Teens	DEC	14.80	14.10	16.00		
Blacks and other than white	DEC	10.00	10.00	11.00		
Whites	DEC	4.60	4.60	4.90		
C. General Business						
Industrial Production - 1977 = 100	4th	139.97	138.37	133.20	1.16	5.08
Mfg. and Trade Sales - Bil. 82$	3rd	1371.40	1365.80	1333.90	0.41	2.81
Mfg. and Trade Inventories - Bil. 82$	3rd	2078.88	2063.87	1978.05	0.73	5.10
New Orders, Durable Goods - Bil. 82$	4th	325.18	312.59	303.76	4.03	7.05
Capacity Utilization, Mfg. %	4th	84.40	84.00	82.30		
New Housing Starts, Private - Tho.	4th	4667.00	4400.00	4585.00	6.07	1.79
D. Prices						
Consumer Prices - 1982-1984 = 100						
CPI-U, All Items	DEC	120.70	120.30	115.60	0.33	4.41
Food	DEC	121.20	120.80	115.30	0.33	5.12
Housing	DEC	120.60	120.10	115.90	0.42	4.06
Apparel	DEC	117.70	117.40	112.40	0.26	4.72
Transportation	DEC	110.40	110.40	107.20	0.00	2.99
Medical	DEC	142.90	142.20	133.60	0.49	6.96
Producer Prices - 1982-1984 = 100 (NSA)						
All Commodities	DEC	109.00	108.30	104.20	0.65	4.61
Industrial Commodities	DEC	108.10	107.40	104.20	0.65	3.74
Crude Materials	DEC	97.00	94.00	94.40	3.19	2.75
Capital Equipment	DEC	116.30	116.00	112.40	0.26	3.47
Agricultural Prices - 1977 = 100						
Prices Received	DEC	145.00	142.00	127.00	2.11	14.17
Prices Paid	DEC	173.00	174.00	165.00	-0.57	4.85
E. Monetary and Credit Aggregates*						
Total Reserves	4th	-0.70	4.30	2.50		
M1	4th	1.30	5.20	3.90		
Commercial Banks:						
Savings	4th	2.90	8.90	0.70		
Small Denomination Time	4th	19.90	10.20	14.80		
Large Denomination Time	4th	14.10	21.40	10.50		
Thrift Institutions:						
Savings	4th	-4.00	5.80	-3.80		
Large Denomination Time	4th	10.30	4.60	22.20		
Debt Components:						
Federal	4th	7.90	7.20	7.60		
Nonfederal	4th	8.60	9.00	10.70		
Interest Rates - Monthly						
Prime Rate - %	DEC	10.50	10.05	8.75		
Discount Rate - %	DEC	6.50	6.50	6.00		

*** Annual rates of change, seasonally adjusted in percent.**

SOURCES: BEA, BLS, Survey of Current Business, Federal Reserve Bulletin.

TABLE THREE: QUARTERLY EMPLOYMENT IN KANSAS

	1988 Q4	1988 Q3	1987 Q4	% Change From 1988 Q3	% Change From 1987 Q4
A. General Indicators					
Civilian Labor Force - Tho.	1279.11	1276.17	1272.01	0.23	0.56
Employed - Tho.	1220.25	1217.31	1216.57	0.24	0.30
Farm Employment - Tho.	53.97	63.93	54.90	-15.59	-1.70
Unemployed - Tho.	58.86	58.86	55.43	-0.00	6.18
Initial Claims for Unemployment Insurance - Tho.	12.63	10.66	12.55	18.42	0.62
Average Work Week, Mfg. - Hrs.	41.07	40.60	40.93	1.15	0.33
B. Industry Employment, in thousands					
All Industries	1052.40	1032.17	1027.10	1.96	2.46
Manufacturing	182.37	182.00	178.53	0.20	2.15
Durable Goods	109.07	108.27	104.70	0.74	4.17
Fabricated Metal Production	11.47	11.43	11.27	0.29	1.78
Machinery (incl. Elec.)	29.73	29.33	27.80	1.36	6.95
Transport. Equip.	47.07	46.53	45.50	1.15	3.44
Nondurable Goods	73.30	73.73	73.83	-0.59	-0.72
Food and Kindred Prod.	26.60	26.50	27.67	0.38	-3.86
Meat Products	14.37	14.20	14.63	1.17	-1.82
Printing and Publishing	20.00	20.13	18.87	-0.66	6.01
Petroleum and Coal	2.90	3.03	2.93	-4.40	-1.14
Mining	10.03	10.49	11.64	-4.38	-13.83
Oil and Gas Extraction	8.60	8.97	10.10	-4.09	-14.85
Contract Construction	42.47	46.17	45.33	-8.01	-6.32
Trans. and Public Utilities	65.17	64.77	63.57	0.62	2.52
Wholesale Trade	67.73	68.60	66.70	-1.26	1.55
Retail Trade	195.47	191.03	190.83	2.32	2.43
Finance, Ins., and Real Estate	58.30	58.73	57.30	-0.74	1.75
Services	216.50	214.00	206.57	1.17	4.81
Federal Government	29.43	29.13	28.70	1.03	2.56
State and Local Government	184.93	167.27	177.93	10.56	3.93

SOURCES: BLS, Ks. Dept. of Human Resources.

TABLE FOUR: QUARTERLY KANSAS RETAIL SALES SUBJECT TO SALES TAX*

	1988 Q4	1988 Q3	1987 Q4	% Change From 1988 Q3	% Change From 1987 Q4
Sales - Mil. $					
Apparel	462.32	443.73	469.85	4.19	-1.60
Automotive	3133.15	3733.27	3121.81	-16.07	0.36
Food	4038.88	4302.48	4093.30	-6.13	-1.33
Furniture	1379.20	1336.06	881.28	3.23	56.50
General Merchandise	2457.22	2396.76	2785.00	2.52	-11.77
Lumber and Building Materials	1293.38	1412.27	1404.67	-8.42	-7.92
Prof. and Pers. Service	1035.51	1073.29	1026.49	-3.52	0.88
Public Utilities	827.52	807.75	791.93	2.45	4.49
Unclassified	1408.63	1644.88	1522.15	-14.36	-7.46
Farm and Garden Products	25.44	23.97	17.09	6.13	48.86
Manufacturing and Trading	1001.94	1055.25	1094.21	-5.05	-8.43
Miscellaneous	45.02	44.10	55.98	2.09	-19.58
Total	17072.91	18273.80	17218.98	-6.57	-0.85

NOTE: Retail sales figures are based on sales tax collections. Actual and reported retail sales may vary.

* Annual Rates

TABLE FIVE: QUARTERLY PERSONAL INCOME IN KANSAS*

	1988 Q3	1988 Q2	1987 Q3	% Change From 1988 Q2	% Change From 1987 Q3
A. Personal Income					
Total - Mil. $	39997	40268	37077	-0.67	7.88
Nonfarm Income - Mil. $	38473	37619	35929	2.27	7.08
Farm Income - Mil. $	1523	2648	1147	-42.48	32.78
Average Weekly Earnings, Mfg.** - $	427	415	410	2.79	3.96
B. Earnings by Industry, in Millions					
Nonfarm	26607	25951	24644	2.53	7.97
Farm	1523	2648	1147	-42.48	32.78
Manufacturing	5380	5219	4942	3.08	8.86
Durable Goods	3416	3300	3070	3.52	11.27
Nondurable Goods	1964	1919	1872	2.34	4.91
Mining	301	305	323	-1.31	-6.81
Contract Construction	1570	1521	1614	3.22	-2.73
Trans. and Public Utilities	2396	2372	2217	1.01	8.07
Wholesale Trade	1969	1925	1814	2.29	8.54
Retail Trade	2725	2688	2488	1.38	9.53
Finance, Ins., and Real Estate	1625	1596	1490	1.82	9.06
Services	5706	5533	5213	3.13	9.46
Federal Government	764	763	746	0.13	2.41
State and Local Government	715	706	675	1.27	5.93

*Seasonally adjusted, at annual rates
**Not seasonally adjusted.

SOURCES: BEA, Ks. Dept. of Human Resources.

TABLE SIX: MONTHLY KANSAS AGRICULTURAL INDICATORS

	1988 December	1988 November	1987 December	% Change From 1988 November	% Change From 1987 December
Prices Received *					
All Farm Products - 1977 = 100	175	175	150	0.00	16.67
All Crops - 1977 = 100	159	157	110	1.27	44.55
Wheat - $/Bu.	3.85	3.75	2.64	2.67	45.83
Sorghum Grain - $/Bu.	3.76	3.83	2.60	-1.83	44.62
Corn - $/Bu.	2.56	2.67	1.81	-4.12	41.44
Soybeans - $/Bu.	7.45	7.38	5.44	0.95	36.95
All Hay - $/Ton	90.00	87.00	65.00	3.45	38.46
Livestock and Products - 1977 = 100	186	186	175	0.00	6.29
All Beef Cattle - $/Cwt.	71.60	72.10	66.60	-0.69	7.51
Steers and Heifers - $/Cwt.	74.20	74.80	68.00	-0.80	9.12
Calves - $/Cwt.	87.90	87.40	84.60	0.57	3.90
Hogs - $/Cwt.	38.20	35.80	40.60	6.70	-5.91
Milk - $/Cwt.	13.40	13.30	13.30	0.75	0.75

*Not seasonally adjusted.

SOURCE: Ks. Crop and Livestock Reporting Service.

TABLE SEVEN: QUARTERLY EMPLOYMENT AND SALES FOR SMSAs AND COUNTIES

				% Change From	
Area	1988 Q4	1988 Q3	1987 Q4	1988 Q3	1987 Q4
A. Wichita SMSA					
Civilian Labor Force - Tho.	256.75	253.97	254.23	1.10	0.99
Employed - Tho.	244.91	242.15	242.91	1.14	0.82
Unemployed - Tho.	11.84	11.82	11.32	0.23	4.62
Rate - %	4.63	4.67	4.47		
Retail Sales - Mil. $	851.14	881.69	848.84	-3.46	0.27
B. Kansas Portion of Kansas City SMSA					
Civilian Labor Force - Tho.	326.34	316.95	320.81	2.96	1.72
Employed - Tho.	311.26	302.93	306.82	2.75	1.45
Unemployed - Tho.	15.08	14.02	13.99	7.60	7.78
Rate - %	4.63	4.43	4.37		
Retail Sales - Mil. $	1020.20	1098.91	999.42	-7.16	2.08
C. Topeka SMSA					
Civilian Labor Force - Tho.	91.74	91.91	91.18	-0.19	0.61
Employed - Tho.	87.31	87.97	86.91	-0.74	0.46
Unemployed - Tho.	4.42	3.94	4.27	12.18	3.66
Rate - %	4.80	4.30	4.67		
Retail Sales - Mil. $	325.01	347.19	316.61	-6.39	2.66
D. Lawrence SMSA					
Civilian Labor Force - Tho.	41.67	39.44	41.12	5.65	1.34
Employed - Tho.	40.20	38.08	39.66	5.57	1.36
Unemployed - Tho.	1.48	1.37	1.46	7.85	0.71
Rate - %	3.57	3.50	3.53		
Retail Sales - Mil. $	113.96	115.31	110.10	-1.17	3.50
E. Riley County--Manhattan Area					
Civilian Labor Force - Tho.	28.79	26.72	28.42	7.75	1.30
Employed - Tho.	27.64	25.65	27.40	7.79	0.90
Unemployed - Tho.	1.15	1.07	1.03	7.03	11.86
Rate - %	4.00	4.03	3.60		
Retail Sales - Mil. $	59.33	61.06	59.90	-2.83	-0.96
F. Reno County--Hutchinson Area					
Civilian Labor Force - Tho.	30.82	31.62	31.34	-2.52	-1.65
Employed - Tho.	29.23	30.17	29.63	-3.12	-1.35
Unemployed - Tho.	1.59	1.45	1.71	10.01	-6.73
Rate - %	5.17	4.57	5.47		
Retail Sales - Mil. $	99.51	104.47	102.08	-4.75	-2.52
G. Crawford County--Pittsburg Area					
Civilian Labor Force - Tho.	16.90	17.15	17.57	-1.48	-3.82
Employed - Tho.	16.00	16.36	16.61	-2.22	-3.70
Unemployed - Tho.	0.90	0.79	0.96	13.81	-5.92
Rate - %	5.33	4.60	5.47		
Retail Sales - Mil. $	42.98	45.45	44.61	-5.45	-3.66
H. Lyon County--Emporia Area					
Civilian Labor Force - Tho.	19.76	19.22	19.98	2.83	-1.11
Employed - Tho.	18.80	18.43	19.20	2.01	-2.08
Unemployed - Tho.	0.96	0.79	0.78	22.18	22.96
Rate - %	4.87	4.10	3.90		
Retail Sales - Mil. $	49.79	52.03	50.81	-4.29	-1.99
I. Saline County--Salina Area					
Civilian Labor Force - Tho.	27.72	27.46	27.07	0.96	2.41
Employed - Tho.	26.34	26.23	25.76	0.42	2.24
Unemployed - Tho.	1.38	1.23	1.31	12.67	5.70
Rate - %	4.97	4.50	4.83		
Retail Sales - Mil. $	99.23	104.81	98.76	-5.32	0.48
J. Barton County--Great Bend Area					
Civilian Labor Force - Tho.	14.67	14.72	14.88	-0.34	-1.41
Employed - Tho.	13.88	14.00	14.10	-0.85	-1.60
Unemployed - Tho.	0.79	0.72	0.78	9.61	2.14
Rate - %	5.40	4.93	5.23		
Retail Sales - Mil. $	55.03	59.93	59.07	-8.18	-6.84
K. Montgomery County--Coffeyville Area					
Civilian Labor Force - Tho.	17.83	17.94	17.97	-0.62	-0.76
Employed - Tho.	16.82	16.90	17.00	-0.47	-1.04
Unemployed - Tho.	1.01	1.05	0.97	-3.16	4.19
Rate - %	5.67	5.83	5.37		
Retail Sales - Mil. $	46.32	52.30	54.20	-11.43	-14.53

SOURCE: Ks. Dept. of Human Resources, Ks. Dept. of Revenue.

TABLE EIGHT: QUARTERLY BANKING ACTIVITY IN KANSAS*

Federal Reserve Member Banks	1988 Q4	1988 Q3	1987 Q4	% Change From 1988 Q3	 1987 Q4
Kansas, in Millions					
Total Deposits	37383.7	37669.3	34635.8	-0.76	7.93
Total Checkable	6246.7	6212.3	6172.3	0.55	1.20
Demand Deposits	3072.7	3053.7	3183.0	0.62	-3.47
Other Checkable	3174.0	3158.7	2988.4	0.49	6.21
Small Time and Savings	24943.3	25317.0	23457.7	-1.48	6.33
Large Time	6193.7	6140.0	5002.0	0.87	23.82
Kansas City, KS, in Millions					
Total Loans	1767.77	1786.63	1727.53	-1.06	2.33
Real Estate	937.83	921.73	873.55	1.75	7.36
Commercial and Industrial	542.23	567.43	541.43	-4.44	0.15
Consumer	96.00	97.57	103.45	-1.61	-7.20
Total Deposits	1985.33	1980.87	1871.83	0.23	6.06
Demand Deposits	230.03	234.33	237.62	-1.83	-3.19
Time and Savings	1135.47	1119.17	1031.31	1.46	10.10
Topeka, in Millions					
Total Loans	375.60	383.70	325.33	-2.11	15.45
Real Estate	112.97	110.10	104.13	2.60	8.48
Commercial and Industrial	141.17	146.20	111.01	-3.44	27.16
Consumer	73.00	78.93	53.48	-7.52	36.50
Total Deposits	519.93	523.53	537.12	-0.69	-3.20
Demand Deposits	160.10	164.10	173.01	-2.44	-7.46
Time and Savings	222.40	218.10	231.58	1.97	-3.96
Wichita, in Millions					
Total Loans	1376.33	1346.13	1260.96	2.24	9.15
Real Estate	277.83	264.00	258.67	5.24	7.41
Commercial and Industrial	507.47	505.87	462.73	0.32	9.67
Consumer	436.00	430.07	382.16	1.38	14.09
Total Deposits	1960.33	1895.67	1890.51	3.41	3.69
Demand Deposits	465.03	454.70	471.68	2.27	-1.41
Time and Savings	996.93	912.27	940.02	9.28	6.05

*The data above pertain only to Federal Reserve member banks of Kansas and do not represent all commercial banking in the state. Since 1980, these data have covered approximately 50 percent of the state's banking activity.

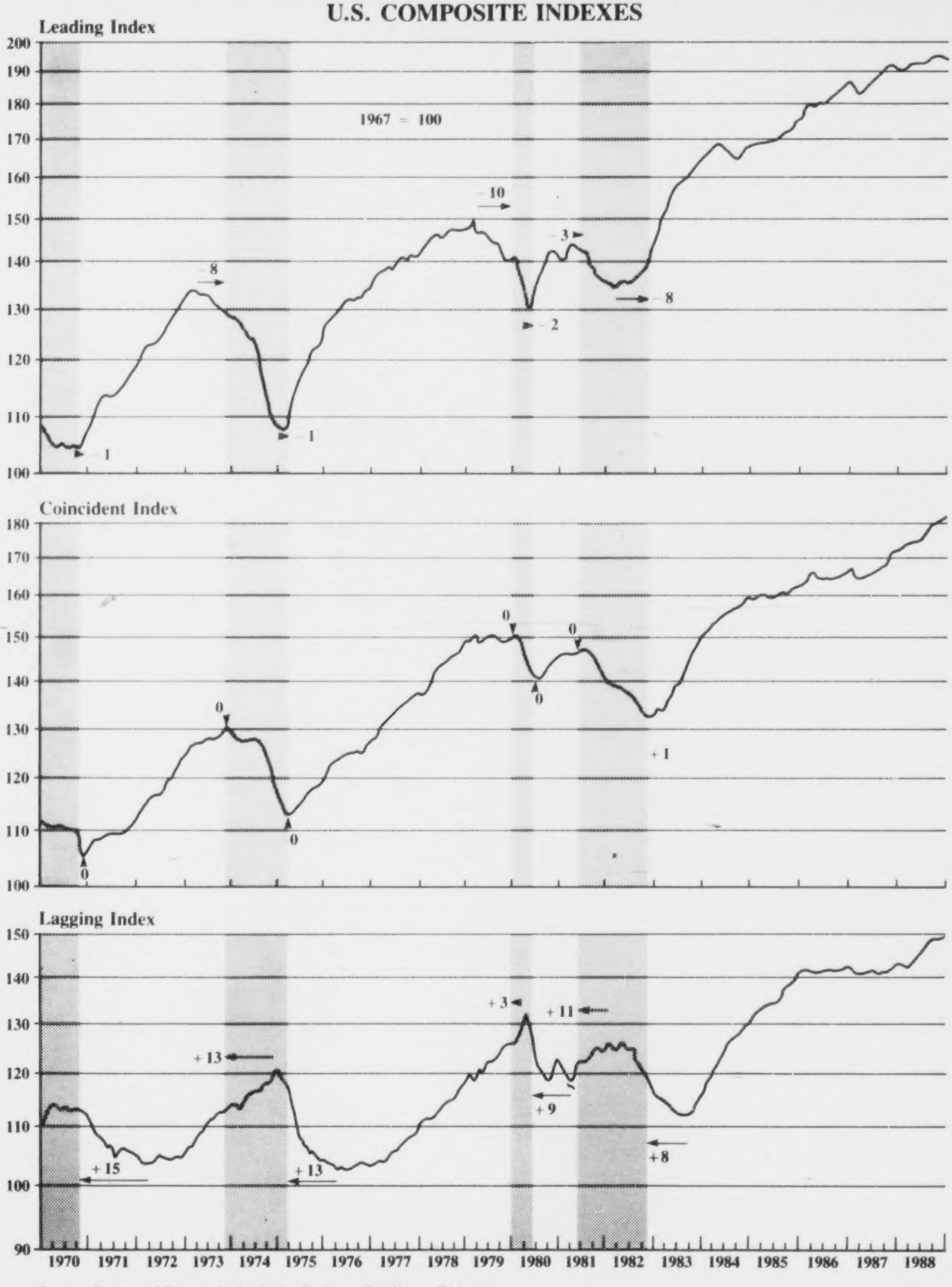
SOURCE: Federal Reserve Bank of Kansas City.

TABLE NINE: QUARTERLY SAVINGS AND LOAN ACTIVITY IN KANSAS

Area	1988 Q4	1988 Q3	1987 Q4	% Change From 1988 Q3	 1987 Q4
A. Kansas, in Millions					
Total Assets	22646.23	22950.60	20395.60	-1.33	11.03
Mortgage Loans	14560.93	14745.27	14657.50	-1.25	-0.66
B. Kansas City, KS, in Millions					
Total Assets	2494.37	2475.63	2353.97	0.76	5.96
Mortgage Loans	1940.73	1934.93	1691.27	0.30	14.75
C. Topeka, in Millions					
Total Assets	3405.07	3359.93	2988.27	1.34	13.95
Mortgage Loans	2957.13	2922.33	2591.00	1.19	14.13
D. Wichita, in Millions					
Total Assets	1909.87	1935.20	1669.80	-1.31	14.38
Mortgage Loans	1335.67	1337.50	1258.17	-0.14	6.16

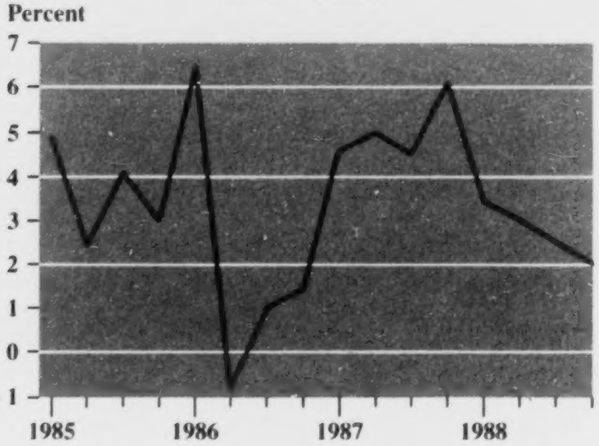
SOURCE: Federal Home Loan Bank of Topeka.

U.S. COMPOSITE INDEXES

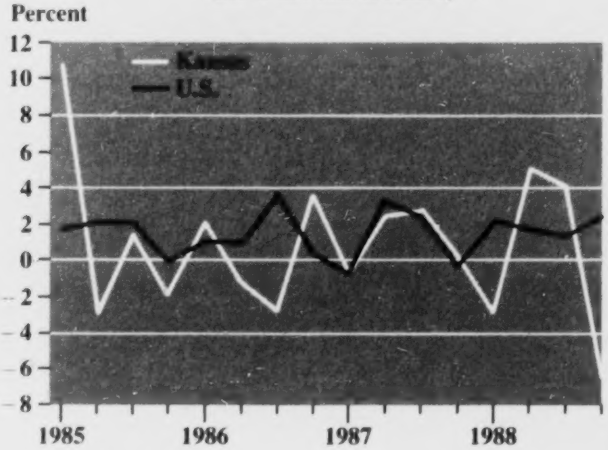


Source: Bureau of Economic Analysis, *Business Conditions Digest.*

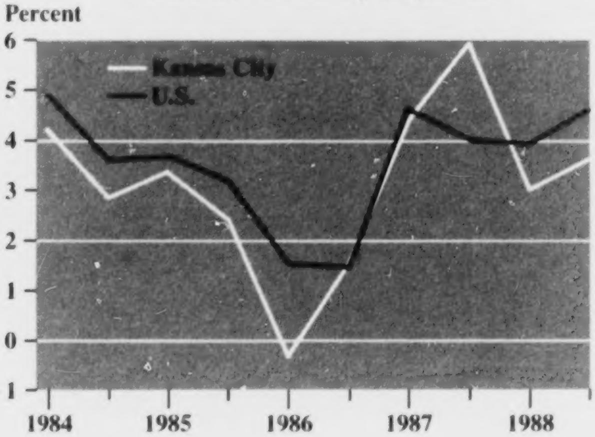
Note: Numbers entered on the chart indicate length of leads (−) and lags (+) in months from reference turning dates.
Shading indicates periods of recession.



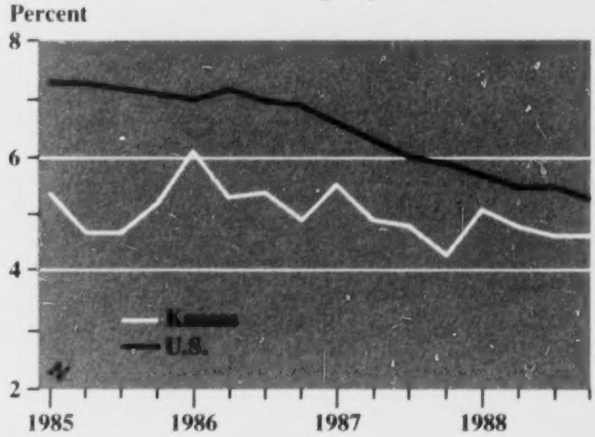
Average Annual Growth Rate of GNP
(1982 Dollars)



Growth of Retail Sales
(In Current Dollars)



Rate of Inflation
(CPI-U, Seasonally Adjusted)



Civilian Unemployment Rate

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KANSAS BUSINESS REVIEW

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Economic Outlook for Kansas and the Nation
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The Institute for Public Policy and Business h Kansas

KANSAS BUSINESS REVIEW

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Kansas Population Trends and Projections 1
Helga Upmeier and Anthony Redwood

If current trends persist, the Kansas population of 2020 will be very different from the population of 1980, when the last census was taken. The median age of Kansans will rise from 30.1 to 38.9, but for the first time in decades the Kansas population will be younger than the U.S. population, and growth rates will nearly equal the (very slow) national rates.

Economic Development in Medium-Sized Kansas Communities 10
Charles E. Krider, Genna M. Ott, and Patty Skalla

Kansas communities' efforts to encourage economic development are eclectic and diverse. An Institute survey of thirty communities shows a range of strategies, sources and uses of funds, and organizational structures devoted to improving local economies.

Gross State Product Trends in Kansas 17
Bienvenido S. Cortes and Jerry D. Rogers

From 1963 to 1986, the real market value of Kansas's production grew 2.1 percent a year, while U.S. production growth averaged 2.7 percent. In addition, cluster analysis of gross state product data indicates that the Kansas economy may have been more volatile than the U.S. economy during the period.

Economic Outlook for Kansas and the Nation 22
Norman Clifford

Interest rates will fall during the rest of the year as the Federal Reserve eases credit to avoid pushing the economy into a recession. Slower growth in the national economy will be reflected in real Kansas personal income, which will grow 0.7 percent this year compared with 1.2 percent last year.

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Advisory Board of the Institute for Public Policy and Business Research—Edward Bruske, President, Kansas Chamber of Commerce and Industry; Harland Priddle, Secretary of Commerce; Executive Vice Chancellor Judith Ramaley; Vice Chancellor Frances Horowitz; Anthony Redwood, Executive Director, Institute for Public Policy and Business Research; Dean John O. Tollefson, School of Business; Joseph Sicilian, Chairman, Department of Economics.

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The purpose of the *Kansas Business Review* is to provide a forum for the dissemination of research studies and reports in the fields of economics and business that would be of special interest and relevance to business persons, public officials, and academicians in Kansas and the Plains Region.

The Editorial Review Board welcomes submissions of original manuscripts as well as reports on research and opinion pieces. The style, however, should emphasize exposition rather than technical details. All submissions will be reviewed initially by the editorial staff and, when judged appropriate, will be sent to referees who are knowledgeable about the content.

Manuscripts for consideration should be typed, double-spaced, and submitted in triplicate. In general, length should not exceed three thousand words.

Submit manuscripts to: Editor, *Kansas Business Review*, The Institute for Public Policy and Business Research, 607 Blake Hall, The University of Kansas, Lawrence, Kansas 66045-2960.

Kansas Population Trends and Projections

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Helga Upmeier
Anthony Redwood

Dr. Upmeier is a research associate at the Institute for Public Policy and Business Research. Dr. Redwood is a professor in the School of Business at the University of Kansas and executive director of the Institute.

Highlights

If current demographic and economic trends continue, the state's population is projected to grow from 2.36 million in 1980 to 2.60 million in 2000, and 2.78 million in the year 2020 according to recent state and county population projections prepared by the Institute.[1] The predicted growth rate of 10.0 percent for the Kansas population during the last two decades of this century is modest compared to the national average of 18.2 percent and to growth rates of 70 percent for Arizona, 58 percent for Florida, and 42 percent for California. Kansas will rank thirty-fourth in population growth according to the state projections released by the U.S. Census Bureau. This is in contrast to thirty-eight at the 1980 census. It is not, however, among the seven states (including Nebraska and Iowa), that are expected to lose population between 1980 and 2000.[2]

The age composition of the Kansas population will continue to be influenced by the baby boom generation, persons born from years 1946 through 1964. Population pyramids, illustrating the age-sex composition of the population, show a shifting bulge, as first the baby boomers and then their offspring (baby boomlet) work their way through the generations. By 2010 when the first baby boomers reach the age of retirement, the elderly population will increase substantially. The share of the elderly population in Kansas by the turn of this century, however, is projected to be lower than for the United States, attributable to massive out-migration of young adults in the 1960s and 1970s. Likewise, the median age of the Kansas population will fall below the U.S. average as early as 1990. As Kansas birth rates are expected to drop in the future, converging with national rates, the proportion of the younger generation will decrease drastically, and there will be fewer entrants into the labor market. Overall, Kansas will go through a demographic transition, whereby a slowly growing population sustained by higher birth rates and declining death rates turns into a static population characterized by low birth and death rates.

Within Kansas regional growth patterns will continue to show strong contrasts. All metropolitan counties are projected to gain population over the next thirty years, whereas the agriculturally oriented counties or those dependent on oil and gas are expected to continue to decline. Johnson County will grow fastest with a 60 percent population growth rate for the last two decades of this century. Finney and its neighboring counties, where new jobs in the beef processing industry have attracted several thousand immigrants, is the only nonmetropolitan area in Kansas where population is expected to increase.

This article examines future Kansas population trends based on projections for the years 1985 to 2020. Growth of total state population, changes in the age composition, and the relative aging of the Kansas population are investigated as well as some economic and social implications of the changing age structure. Regional growth patterns are analyzed by county. Finally, the article presents a brief explanation of the methodology used in the projection model along with a discussion of the limitations and reliability of the projections.

State Population Growth

Throughout this century, Kansas population growth has been significantly below the national average (Table 1). Out-migration, which reached its peak during the Depression and Dust Bowl years of the 1930s, was the main reason for slow population growth in Kansas. High birth rates in Kansas (2.1 per female in 1980 versus 1.8 for the United States) have more than offset out-migration in previous decades and are expected to sustain slow population growth in the future, despite the assumed drop in fertility over the next thirty years. Figure 1 illustrates three growth projections for Kansas population; each series makes different assumptions on future migration. According to the medium series, which assumes net migration rates to approach zero linearly by 2020, population will increase from 2.36 million in 1980 to 2.60 million in 2000, and reach 2.78 million in 2020. This corresponds to an annual growth rate of 0.5 percent for the twenty-year period from 1980 to 2000, compared to 0.9 percent for the United States. Between 2000 and 2020, annual growth rates will drop to 0.3 percent for Kansas and 0.5 percent for the national average.

Table 1 reveals that the Kansas population growth rates will range from a little more than half (1980-1990) to two-thirds (2010-2020) of the national average. Thus, the gap between the

Table 1
Kansas and U.S. Population Change, 1890 to 2020

Year	Kansas Population	Percent Change Kansas	Percent Change U.S.
1890	1,428,108		
1900	1,470,495	2.97%	20.73%
1910	1,690,949	14.99	21.02
1920	1,769,257	4.63	14.94
1930	1,880,999	6.32	16.14
1940	1,801,028	–4.25	7.24
1950	1,905,299	5.79	14.45
1960	2,178,611	14.34	19.00
1970	2,249,071	3.23	13.32
1980	2,363,679	5.10	11.48
1990*	2,496,862	5.63	10.20
2000*	2,600,636	4.16	7.33
2010*	2,698,976	3.78	5.70
2020*	2,779,681	2.99	4.72

*Projections.

Source: Bureau of the Census, *U.S. Population 1890-1980* and *Current Population Reports;* and Institute for Public Policy and Business Research, *Kansas Population Projections.*

Kansas and U.S. growth rates is projected to narrow in the years ahead (Figure 2). This is why the state's share of total U.S. population, which was almost 2.3 percent in 1890, is expected to stabilize between 1.0 and 0.9 percent at the beginning of the next century (Table 2).

Overall, Kansas will undergo a process of demographic change during the next thirty years, when the decline in mortality will be followed by a drop in fertility. According to the traditional demographic transition theory, Kansas will enter the final stage of demographic transformation by the end of this century when birth rates have dropped to the replacement level, resulting in slow or zero population growth if there is no migration.

Table 2
Kansas Proportion of U.S. Population, 1890-2020

Year	Kansas/U.S.	Year	Kansas/U.S.
1890	2.27%	1960	1.21%
1900	1.93	1970	1.11
1910	1.84	1980	1.04
1920	1.67	1990	1.00
1930	1.53	2000	0.97
1940	1.37	2010	0.95
1950	1.26	2020	0.94

Source: Bureau of the Census, *U.S. Population 1890-1980* and *Current Population Reports;* and Institute for Public Policy and Business Research, *Kansas Population Projections.*

Changes in Age Composition

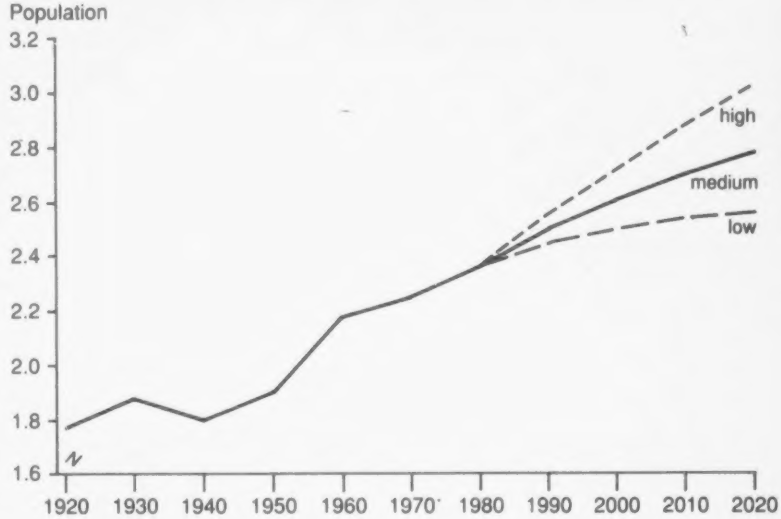
In the years ahead, the age structure of the Kansas population will be mainly influenced by the baby boom generation, those who will be 25 to 44 in 1990 and who are now in their prime working years. Never again will this age group make up such a large proportion of the Kansas population: 32.2 percent in 1990 (Table 3). Figure 3 shows the progression of the baby boom bulge through the age cohorts over time and the shrinking of the younger age groups in the future. By 2010, when the first baby boomers reach retirement age, people aged 65 and over will be more numerous than ever before. As can be seen from Figure 3, the age structure of the Kansas population resembled the shape of a pyramid in 1980, and even more so in the 1970s and 1960s. A pyramid-shaped age composition is typical of developing countries with high fertility and mortality rates such as most Latin American countries. As modernization and industrialization cause birth and death rates to drop, the age composition of the population forms a rectangular-shaped graph, characteristic of highly developed countries with a longer history of low birth and death rates such as Sweden or West Germany.

According to the projection model that assumes a drop in fertility in Kansas over the next three decades as Kansas rates converge with lower national rates, the younger age cohorts will continue to decrease drastically in the years ahead. The drop in births will mainly occur after 1990, when the baby boom generation will have had most of their children and the number of females of childbearing age will decrease. The decline in the young adult age cohorts in Kansas is clearly visible by the turn of this century (Figure 3). The youngest age cohort (0-4) is projected to decline from 7.7 percent of total population in 1980 to 6.6 percent in 2000, and will only make up 6.1 percent in 2020. The years 1985-1990 mark the peak of the so-called "baby boomlet", created by the offspring of the baby boomers. In 2000, these persons will be in the 15-19 year age cohort and represent 7.7 percent of total population, whereas the population aged 20 to 24 will only make up 6.8 percent. Overall, the number of young adults aged 15 to 29 is projected to decrease from 27.6 percent of total population in 1980 to 18.8 percent in 2020.

The beginning of the twenty-first century will see the aging baby boomers approaching retirement. The rising number of the elderly is a statewide as well as a national phenomenon. As the baby boom generation ages during the next century, the proportion of the population age 65 and over in Kansas is projected to jump from 13.0 percent in 1980 to 16.8 percent in 2020 (Table 3). The corresponding shares for the United States are 11.2 and 17.3 percent.

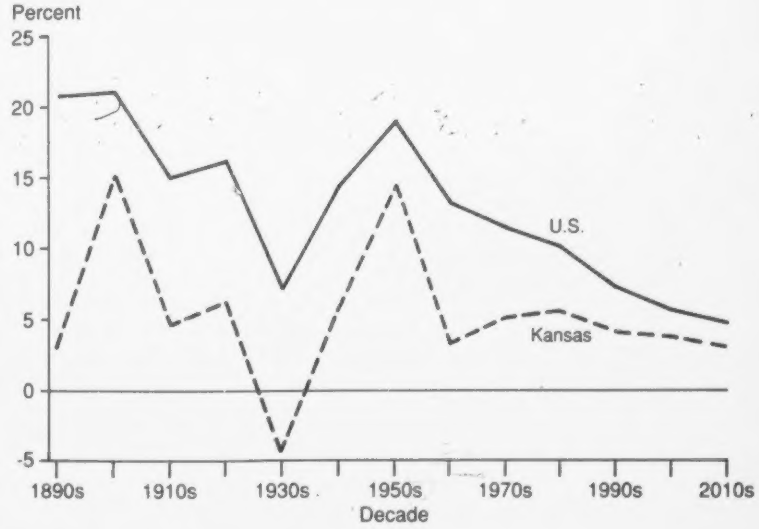
Although Kansas has faced the problems of an over-aged population earlier than the United States, the aging baby boomers and their increased life expectancy will lead to an over-aged population (one third of the population over 55) nationwide over the next thirty years. Table 3 and Figure 3 both show the relative aging of the Kansas population. As Table 4 shows, the median age in Kansas is projected to rise from 30.1 in 1980 to 35.9 in 2000, and 38.9 in 2020. Although the median age in Kansas has always been higher than the national average, it will fall below the U.S. average as early as 1990. This can be explained by the fact that Kansas's birth rates, although declining, will still remain higher than the national average in the foreseeable future and by the fact that out-migration of young adults during the 1960s and 1970s decimated the age cohorts that will become the older generation by 2020.

Figure 1
Kansas Population: Trends and Projections (in millions)



Note: Projected population levels for 1990 to 2020 are based on three different sets of assumptions about net migration trends.
Source: Bureau of the Census, *U.S. Population 1890-1980* and *Current Population Reports;* and Institute for Public Policy and Business Research, *Kansas Population Projections.*

Figure 2
Kansas and U.S. Population Growth



Note: Rates beyond 1980 are projections.
Source: Bureau of the Census, *U.S. Population 1890-1980* and *Current Population Reports;* and Institute for Public Policy and Business Research, *Kansas Population Projections.*

Table 3
Age Distribution of Kansas Population, 1960 to 2020 (Percent)

	Age 15-24		Age 25-44		Age 45-54		Age 55-64		Age 65 and Over	
	Kansas	U.S.	Kansas	U.S.	Kansas	U.S.	Kansas	U.S.	Kansas	U.S.
1960	13.3%	13.4%	25.0%	26.2%	10.9%	11.4%	8.9%	8.7%	11.0%	9.2%
1970	18.1	17.4	22.3	23.6	11.0	11.4	9.4	9.2	11.9	9.9
1980	19.1	18.8	26.4	27.7	9.8	10.1	9.6	9.6	13.0	11.3
1990	13.6	14.2	32.2	32.6	9.7	10.2	8.3	8.4	13.0	12.7
2000	14.5	13.5	29.3	29.9	13.8	13.9	8.5	8.9	12.7	13.0
2010	14.0	13.8	25.9	26.0	15.5	15.2	12.3	12.3	13.0	13.8
2020	12.3	12.2	26.6	26.0	11.5	12.2	14.0	13.6	16.8	17.3

Source: Bureau of the Census, *Current Population Reports* and Institute for Public Policy and Business Research, *Kansas Population Projections*.

Economic and Social Implications

The economic and social consequences to be expected from the change in the age structure of the Kansas population are multifaceted and mirror national trends as well. A few of these consequences are highlighted in this article.

For example, as a result of the decline in births, the future labor market will be characterized by fewer job entrants and a shortage of labor, which could drive up wages although females and immigrant workers will fill part of the gap. By 2000 and beyond, the work force will be older and more female, a trend already underway. The median age of workers may climb to 40 years. An aging work force will put young job applicants into a very competitive position. Enrollment figures will decline from kindergarten to college, but there will be a higher demand for full-day child care programs and after-school care facilities as more women enter the work force. As families become smaller and the number of households grows steadily, the demand for housing could shift from large single-family homes to smaller-sized houses and apartments.

When the oldest members of the baby-boom generation retire, beginning in 2010, the aging population will create a promising market for a variety of products and services such as dietary food, medical supplies, corrective devices, housekeeping, home repair, travel programs, leisure activities, and health care. The health care system will have to prepare for the aging baby boomers and provide services to an elderly population with a longer life expectancy, putting stress on federally funded health care programs. Also, there will be an increasing demand for nursing homes, adult daycare, and retirement housing. The higher demand for care facilities for the elderly will also be influenced by the fact that there will be fewer children at the beginning of the next century, and their lifestyles will not permit family care as more women work outside the home. Thus, health care and related fields would seem to offer good opportunities for future employment as the baby boomers age.

Finally, the Social Security fund will come under increasing pressure after 2010, when the first baby boomers reach retirement age and the number of actual contributors will have dropped. To prepare for retirement, baby boomers already tend to buy more insurance than any previous generation.

Table 4
Median Age of the Kansas and U.S. Population, 1970 to 2020

Year	Kansas	U.S.
1970	28.7	28.0
1980	30.1	30.0
1985	31.2	31.4
1990	32.6	33.0
1995	34.3	34.7
2000	35.9	36.3
2005	36.9	37.6
2010	37.4	38.5
2015	38.0	38.8
2020	38.9	39.3

Source: Bureau of the Census, *Current Population Reports* and Institute for Public Policy and Business Research, *Kansas Population Projections*.

Figure 3
Age and Sex Structure of the Kansas Population, 1980 to 2020

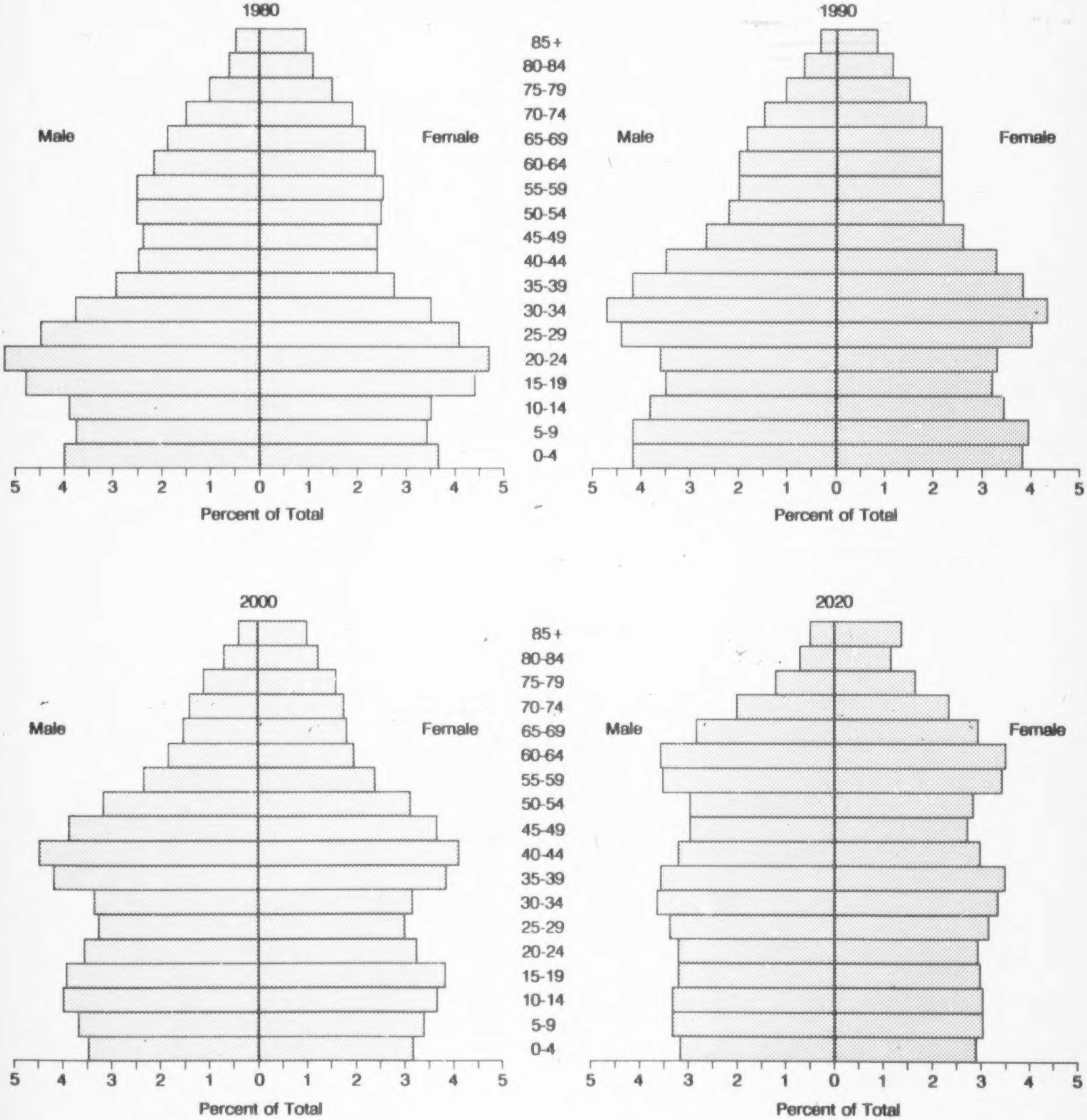


Table 5
Population Projections of Kansas Counties, 1980-2020

	1980	1990	2000	2010	2020
Allen	15,654	15,261	15,233	15,554	16,094
Anderson	8,749	8,376	8,244	8,388	8,783
Atchison	18,397	17,645	17,455	17,586	17,932
Barber	6,548	6,601	6,616	6,946	7,413
Barton	31,343	31,607	31,671	32,587	34,397
Bourbon	15,969	15,142	14,611	14,612	14,998
Brown	11,955	11,031	10,489	10,444	10,791
Butler	44.782	50,400	52,998	55,488	56,958
Chase	3,309	2,986	2,770	2,640	2,602
Chautauqua	5,016	4,572	4,230	4,128	4,253
Cherokee	22,304	22,316	22,359	22,381	22,348
Cheyenne	3,678	3,435	3,319	3,331	3,482
Clark	2,599	2,674	2,598	2,463	2,286
Clay	9,802	9,293	9,289	9,527	9,866
Cloud	12,494	11,055	10,134	9,647	9,502
Coffey	9,370	8,698	8,365	8,365	8,613
Comanche	2,554	2,462	2,412	2,442	2,515
Cowley	36,824	36,754	36,839	37,143	37,571
Crawford	37,916	37,212	36,914	37,188	37,392
Decatur	4,509	4,280	4,168	4,194	4,366
Dickinson	20,175	19,671	19,495	19,586	19,700
Doniphan	9,268	9,051	9,076	9,242	9,557
Douglas	67,640	75,872	84,156	93,585	99,981
Edwards	4,271	3,896	3,597	3,473	3,465
Elk	3,918	3,445	3,210	3,136	3,115
Ellis	26,098	27,571	27,954	28,189	27,670
Ellsworth	6,640	5,967	5,438	5,219	5,204
Finney	23,825	32,332	36,468	41,239	45,784
Ford	24,315	26,707	28,756	31,040	33,243
Franklin	22,062	21,981	22,124	22,521	23,007
Geary	29,852	31,758	33,734	34,159	33,777
Gove	3,726	3,556	3,428	3,416	3,467
Graham	3,995	3,701	3,455	3,359	3,452
Grant	6,977	6,924	6,897	7,156	7,750
Gray	5,138	5,534	5,881	6,356	6,876
Greeley	1,845	1,936	2,000	2,119	2,278
Greenwood	8,764	7,847	7,206	6,954	6,946
Hamilton	2,514	2,512	2,545	2,589	2,635
Harper	7,778	7,464	7,328	7,419	7,673
Harvey	30,531	30,177	29,960	30,074	30,336
Haskell	3,814	4,082	4,288	4,569	4,917
Hodgeman	2,269	2,220	2,179	2,207	2,310
Jackson	11,644	12,024	12,416	12,864	13,238
Jefferson	15,207	16,849	18,269	19,043	19,120
Jewell	5,241	4,751	4,444	4,386	4,503
Johnson	270,269	359,826	433,580	474,166	476,015
Kearny	3,435	4,252	4,743	5,302	5,820
Kingman	8,960	9,142	9,230	9,467	9,828
Kiowa	4,046	3,735	3,442	3,422	3,551
Labette	25,682	25,404	25,444	25,776	26,314
Lane	2,472	2,554	2,540	2,595	2,741
Leavenworth	54,809	72,080	83,253	85,865	86,426
Lincoln	4,145	3,481	3,084	2,909	2,856
Linn	8,234	8,017	7,994	8,157	8,361
Logan	3,478	3,307	3,231	3,222	3,317
Lyon	35,108	36,079	36,993	37,996	38,403
McPherson	26,855	26,800	27,006	27,343	27,645
Marion	13,522	12,216	11,251	10,682	10,493
Marshall	12,787	12,412	12,006	11,915	12,293
Meade	4,788	4,340	4,082	4,116	4,356
Miami	21,618	23,963	26,366	28,463	29,732
Mitchell	8,117	7,309	6,809	6,623	6,606
Montgomery	42,281	40,376	39,171	39,090	40,059
Morris	6,419	6,354	6,509	6,791	7,142
Morton	3,454	3,444	3,542	3,730	3,998
Nemaha	11,211	10,591	10,400	10,628	11,275
Neosho	18,967	17,916	17,209	16,929	16,950
Ness	4,498	4,271	4,070	4,127	4,439
Norton	6,689	6,327	6,154	6,067	6,036
Osage	15,319	16,183	16,918	17,460	17,508
Osborne	5,959	5,156	4,601	4,342	4,312
Ottawa	5,971	5,825	5,695	5,527	5,241
Pawnee	8,065	7,520	7,177	7,104	7,339
Phillips	7,406	6,720	6,178	5,901	5,866
Pottawatomie	14,782	16,333	17,676	18,974	19,954
Pratt	10,275	10,518	10,633	11,051	11,601
Rawlins	4,105	3,744	3,541	3,587	3,813
Reno	64,983	64,519	64,106	64,208	64,428
Republic	7,569	6,730	6,045	5,654	5,477
Rice	11,900	10,780	10,081	9,855	10,039
Riley	63,505	65,761	68,249	70,236	71,382
Rooks	7,006	6,487	6,131	6,252	6,823
Rush	4,516	3,790	3,158	2,779	2,637
Russell	8,868	8,280	7,667	7,453	7,607
Saline	48,905	50,553	51,017	51,195	51,180
Scott	5,782	5,724	5,555	5,548	5,721
Sedgwick	367,088	400,450	425,778	452,034	475,693
Seward	17,071	19,350	21,476	23,617	25,569
Shawnee	154,916	163,257	168,188	170,787	170,468
Sheridan	3,544	3,322	3,177	3,215	3,397
Sherman	7,759	6,950	6,411	6,130	6,103
Smith	5,947	5,211	4,644	4,303	4,107
Stafford	5,694	5,287	5,075	5,129	5,423
Stanton	2,339	2,902	2,984	3,016	2,866
Stevens	4,736	5,041	5,349	5,767	6,251
Sumner	24,928	25,433	25,979	26,873	27,988
Thomas	8,451	8,508	8,582	8,932	9,399
Trego	4,165	4,162	4,104	4,248	4,477
Wabaunsee	6,867	6,603	6,539	6,601	6,732
Wallace	2,045	1,979	1,971	2,037	2,199
Washington	8,543	7,168	6,231	5,791	5,658
Wichita	3.041	2,841	2,732	2,781	2,961
Wilson	12,128	11,404	10,894	10,657	10,541
Woodson	4,600	3,905	3,444	3,250	3,301
Wyandotte	172,335	174,635	176,227	181,250	189,815

Note: These projections are broad indicators of future population levels if recent and current trends continue.

Regional Disparity in Population Growth

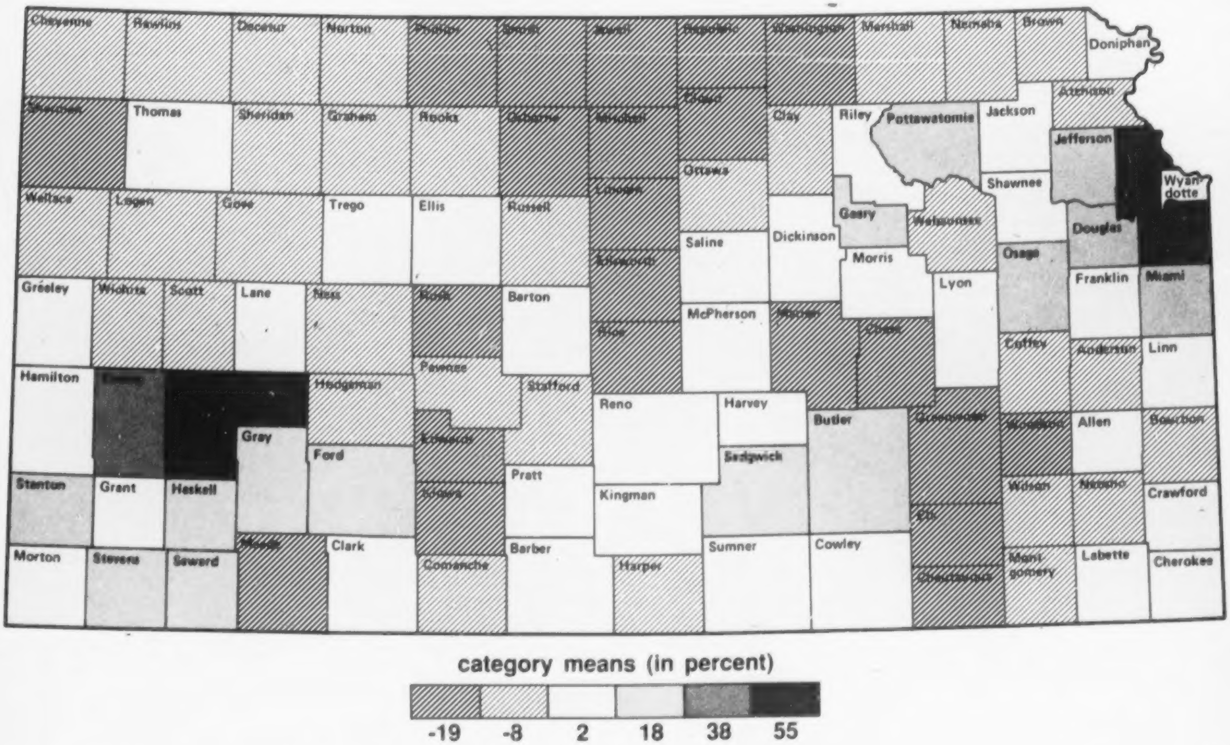
Table 5 shows population projections for Kansas by county. Figure 4 highlights the diverse pattern of regional population growth projected for the last two decades of this century. Population growth rates between 1980 and 2000 for individual counties range from 60 percent in Johnson County to -30 percent in Rush County (in western Kansas), and category means for county groupings with high increases and severe decreases in population range from 55 percent to -19 percent. Of the state's 105 counties, 65 are projected to decline in population, 22 to increase below the statewide average of 10 percent, and 18 to grow faster than the Kansas average (Table 6).

Metropolitan counties, comprising only 50 percent of the total state population in 1980 compared to a 75 percent share nationwide, will be the main source of growth in the future. By 2000, their share of total population is projected to rise to 57 percent. In comparison, the metropolitan population of the United States made up 75 percent in 1980 and is expected to rise to 80 percent of the total by the turn of the century. Over the next three decades, all metropolitan counties are projected to grow significantly, except for Harvey, which was added to the Wichita metro area after the 1980 Census, and Wyandotte, which has been losing population due to suburbanization since the 1960s. Johnson County, which boasted an 88 percent gain in population between 1960 and 1980, is predicted to grow by 60 percent between 1980 and 2000, fueled by continued net migration gains. Under the assumptions in the projection model, Johnson County will become the most populous county by the turn of the century, pushing Sedgwick County into second place.

As part of the Kansas City metro area, Leavenworth and Miami counties will grow 52 percent and 22 percent respectively from 1980 to 2000. The Wichita metro area, excluding Harvey County, is expected to grow about 17 percent between 1980 and 2000. The corresponding growth rates from 1980

Figure 4
Kansas Population Change, 1980 to 2020

Statewide average: 10 percent


Cheyenne
Rawlins
Decatur
Norton
Phillips
Smith
Jewell
Republic
Washington
Marshall
Nemaha
Brown
Doniphan
Sherman
Thomas
Sheridan
Graham
Rooks
Osborne
Mitchell
Cloud
Clay
Riley
Pottawatomie
Jackson
Atchison
Jefferson
Ottawa
Shawnee
Wyandotte
Wallace
Logan
Gove
Trego
Ellis
Russell
Lincoln
Saline
Dickinson
Geary
Wabaunsee
Douglas
Morris
Osage
Ellsworth
Greeley
Wichita
Scott
Lane
Ness
Rush
Barton
Lyon
Franklin
Miami
McPherson
Marion
Rice
Chase
Coffey
Anderson
Linn
Hamilton
Kearny
Hodgeman
Pawnee
Stafford
Reno
Harvey
Butler
Greenwood
Woodson
Allen
Bourbon
Gray
Ford
Edwards
Pratt
Sedgwick
Stanton
Grant
Haskell
Kiowa
Kingman
Wilson
Neosho
Crawford
Elk
Morton
Stevens
Seward
Meade
Clark
Comanche
Barber
Harper
Sumner
Cowley
Chautauqua
Mont-gomery
Labette
Cherokee
category means (in percent)
-19
-8
2
18
38
55

Note: Category means were computed by SAS procedure FASTCLUS to minimize within-category variation.

Table 6
Projected Population Growth Rates for Kansas Counties

	1980-1990	1990-2000	2000-2010	2010-2020
Allen	-2.5%	-0.2%	2.1%	3.5%
Anderson	-4.3	-1.6	1.7	4.7
Atchison	-4.1	-1.1	0.8	2.0
Barber	0.8	0.2	5.0	6.7
Barton	0.8	0.2	2.9	5.6
Bourbon	-5.2	-3.5	0.0	2.6
Brown	-7.7	-4.9	-0.4	3.3
Butler	12.5	5.2	4.7	2.6
Chase	-9.8	-7.2	-4.7	-1.4
Chautauqua	-8.8	-7.5	-2.4	3.0
Cherokee	0.1	0.2	0.1	-0.1
Cheyenne	-6.6	-3.3	0.3	4.5
Clark	2.9	-2.8	-5.2	-7.2
Clay	-5.2	-0.1	2.6	3.6
Cloud	-11.5	-8.3	-4.8	-1.5
Coffey	-7.2	-3.8	-0.0	3.0
Comanche	-3.6	-2.0	1.2	3.0
Cowley	-0.2	0.2	0.8	1.2
Crawford	-1.9	-0.8	0.7	0.5
Decatur	-5.1	-2.6	0.6	4.1
Dickinson	-2.5	-0.9	0.5	0.6
Doniphan	-2.3	0.3	1.8	3.4
Douglas	12.2	10.9	11.2	6.8
Edwards	-8.8	-7.7	-3.4	-0.2
Elk	-12.1	-6.8	-2.3	-0.7
Ellis	5.6	1.4	0.8	-1.8
Ellsworth	-10.1	-8.9	-4.0	-0.3
Finney	35.7	12.8	13.1	11.0
Ford	9.8	7.7	7.9	7.1
Franklin	-0.4	0.6	1.8	2.2
Geary	6.4	6.2	1.3	-1.1
Gove	-4.6	-3.6	-0.4	1.5
Graham	-7.4	-6.6	-2.8	2.8
Grant	-0.8	-0.4	3.8	8.3
Gray	7.7	6.3	8.1	8.2
Greeley	4.9	3.3	5.9	7.6
Greenwood	-10.5	-8.2	-3.5	-0.1
Hamilton	-0.1	1.3	1.7	1.8
Harper	-4.0	-1.8	1.2	3.4
Harvey	-1.2	-0.7	0.4	0.9
Haskell	7.0	5.1	6.6	7.6
Hodgeman	-2.2	-1.8	1.3	4.6
Jackson	3.3	3.3	3.6	2.9
Jefferson	10.8	8.4	4.2	0.4
Jewell	-9.3	-6.5	-1.3	2.7
Johnson	33.1	20.5	9.4	0.4
Kearny	23.8	11.5	11.8	9.8
Kingman	2.0	1.0	2.6	3.8
Kiowa	-7.7	-7.8	-0.6	3.8
Labette	-1.1	0.2	1.3	2.1
Lane	3.3	-0.6	2.1	5.7
Leavenworth	31.5	15.5	3.1	0.7
Lincoln	-16.0	-11.4	-5.7	-1.8
Linn	-2.6	-0.3	2.0	2.5
Logan	-4.9	-2.3	-0.3	3.0
Lyon	2.8	2.5	2.7	1.1
McPherson	-0.2	0.8	1.2	1.1
Marion	-9.7	-7.9	-5.1	-1.8
Marshall	-2.9	-3.3	-0.8	3.2
Meade	-9.4	-5.9	0.8	5.8
Miami	10.8	10.0	8.0	4.5
Mitchell	-10.0	-6.8	-2.7	-0.3
Montgomery	-4.5	-3.0	-0.2	2.5
Morris	-1.0	2.4	4.3	5.2
Morton	-0.3	2.8	5.3	7.2
Nemaha	-5.5	-1.8	2.2	6.1
Neosho	-5.5	-3.9	-1.6	0.1
Ness	-5.0	-4.7	1.4	7.6
Norton	-5.4	-2.7	-1.4	-0.5
Osage	5.6	4.5	3.2	0.3
Osborne	-13.5	-10.8	-5.6	-0.7
Ottawa	-2.5	-2.2	-3.0	-5.2
Pawnee	-6.8	-4.6	-1.0	3.3
Phillips	-9.3	-8.1	-4.5	-0.6
Pottawatomie	10.5	8.2	7.3	5.2
Pratt	2.4	1.1	3.9	5.0
Rawlins	-8.8	-5.4	1.3	6.3
Reno	-0.7	-0.6	0.2	0.3
Republic	-11.1	-10.2	-6.5	-3.1
Rice	-9.4	-6.5	-2.2	1.9
Riley	3.6	3.8	2.9	1.6
Rooks	-7.4	-5.5	2.0	9.1
Rush	-16.1	-16.7	-12.0	-5.1
Russell	-6.6	-7.4	-2.8	2.1
Saline	3.4	0.9	0.3	-0.0
Scott	-1.0	-2.9	-0.1	3.1
Sedgwick	9.3	6.3	6.2	5.2
Seward	13.3	11.0	10.0	8.3
Shawnee	5.4	3.0	1.5	-0.2
Sheridan	-6.3	-4.4	1.2	5.7
Sherman	-10.4	-7.8	-4.4	-0.4
Smith	-12.4	-10.9	-7.4	-4.5
Stafford	-7.2	-4.0	1.0	5.7
Stanton	24.1	2.8	1.1	-5.0
Stevens	6.4	6.1	7.8	8.4
Sumner	2.0	2.1	3.4	4.1
Thomas	0.7	0.9	4.1	5.2
Trego	-0.1	-1.4	3.5	5.4
Wabaunsee	-3.8	-1.0	1.0	2.0
Wallace	-3.2	-0.4	3.4	7.9
Washington	-16.1	-13.1	-7.1	-2.3
Wichita	-6.6	-3.8	1.8	6.4
Wilson	-6.0	-4.5	-2.2	-1.1
Woodson	-15.1	-11.8	-5.6	1.6
Wyandotte	1.3	0.9	2.9	4.7

Note: These are broad indicators of future rates if recent trends continue.

to the year 2000 for Shawnee and Douglas counties are 8.6 percent and 24.4 percent. Population growth rates in Osage and Jefferson counties, which have been excluded from the Topeka metro area by the Census Bureau, are projected to reach 10.4 percent and 20.1 percent from 1980 to 2000. These increases are attributable to the counties' locations within easy commuting distance to major cities and to their attractive environment for living and retirement.

Migration from rural to urban areas accounts for most of the regional disparities in population growth in Kansas. Although birth rates are significantly higher in the rural areas of the state, most rural counties are declining in population because births cannot offset deaths and out-migration. The economic incentive to migrate is evident when comparing employment opportunities in various parts of the state. Thus it is not surprising that the sparsely settled agricultural counties in northeast, northwest, north central, southeast, and south central Kansas will face population loss in the future. In addition, the oil situation has caused some counties in the state such as Greenwood, Rice, Barton, Ellis, and Russell to lose population, especially among their younger generation. An area of growth in western Kansas has developed around Finney County, where the beef processing industry has attracted a large number of immigrant workers, with spillover into neighboring communities in Kearny, Ford, and Gray counties. Most of these immigrants are minorities, so population growth in these counties is the result of the combined effect of immigration and higher birth rates among minorities.

Methodology and Reliability

We use mathematical extrapolations of past and current demographic trends to project future population levels. Thus, the outcome and reliability of the projections depend upon the projection technique used, the specific assumptions about future fertility, mortality, and migration, and the quality of available data.

A standard technique for obtaining age- and sex-specific population projections is the cohort survival or cohort component method. It is based on the fundamental demographic equation that population at a given time t equals the original population at an earlier point in time, plus births, minus deaths, plus in-migration, and minus out-migration. In essence, the cohort-survival method examines each age group (cohort) separately and proceeds by moving individual cohorts into the future, adjusting for fertility, mortality, and migration.

Besides specific assumptions about future births, deaths and migration, the general assumption was that no change in the state's social and economic situation will be drastic enough to alter current demographic trends. Explicitly, no profound change in lifestyle, economic growth, or environmental conditions (e.g. drought) is assumed. Among the specific assumptions necessary for the projection model were the following: (1) birth (fertility) rates will decline in Kansas in accordance with national rates; (2) death (survival) rates will decrease in accordance with the latest forecast by the Census Bureau for the United States; and (3) migration rates will linearly approach zero by the year 2020.

Among the three forecasting variables, migration is the most difficult to envision. The problem of making reasonable migration assumptions is intricate, since migration responds fairly quickly to economic change. Unforeseeable future economic events such as a plant closing, the start of a major construction project, or the recovery of the oil industry make migration trends much harder to predict than fertility and mortality trends. Thus, the accuracy of the projections depends largely on the assumptions made about future migration. Population projections for local areas are generally more sensitive to migration than are projections for entire states and nations. Predicting migration trends is particularly difficult for counties that are undergoing rapid change or experiencing substantial migration. Therefore, the county projections must be viewed with greater caution than the state projections, especially for counties with a sizeable student or military population. Generally, the Kansas population projections are offered as broad indicators of future population levels rather than an exact forecast. In fact, the projections are correct if the base population (1980 Census counts) and the available demographic data are correct and if all the underlying assumptions on fertility, mortality, and migration prove to be valid. Overall, the reliability of the Kansas projections is mainly affected by limitations regarding the use of 1980 Census data. Eight years after the latest census, it is impossible to obtain a completely reliable extrapolation of present demographic trends.

Acknowledgements

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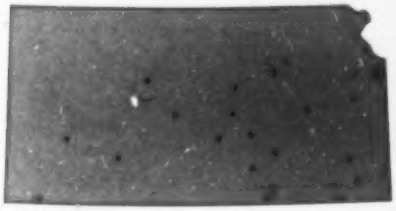
The authors would like to thank Dr. Larry Hoyle for programming and technical assistance on the project.

Notes

1. Projections for five-year age groups and five-year time intervals through 2020 by age and sex for the 105 counties and for the state as a whole are published in the Institute for Public Policy and Business Research Monograph Series, no. 158, *Kansas Population Projections 1985-2020*, by Helga Upmeier.

2. Bureau of the Census, *Current Population Reports: Population Estimates and Projections*, Series P–25, no. 1018, Projections of the Population of the United States by Age, Sex, and Race: 1988 to 2080.

Economic Development in Medium-Sized Kansas Communities



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The Kansas economy is adjusting to structural changes in the national and world economies. Rural communities specifically are contending with declines in agriculture and petroleum production, which have always constituted the backbone of their communities. To combat such declines, Kansas towns are relying more on economic development techniques.

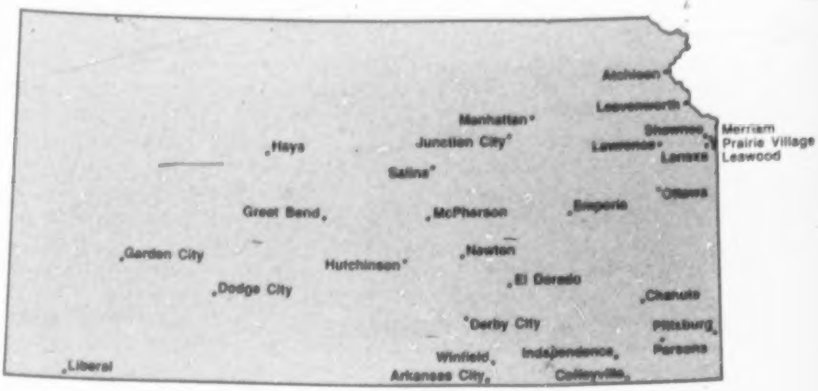
Although Kansas has a state-level economic development strategy, the effort of each community is also crucial to economic development. When planning to relocate or expand, business owners and managers examine what a community has to offer at least as carefully as they consider state policies. If Kansas is to remain competitive in the national as well as international economy, its cities and towns must be strong in their economic development efforts.

This article investigates what medium-sized communities in Kansas are doing to encourage economic development. It looks at
1) how community organizations interact to promote economic development;
2) what, if any, strategic planning has been completed; and
3) what kinds of economic development efforts have been undertaken.

Results and Findings

In March 1989, the Kansas Center for Community Economic Development conducted a survey to discover what medium-sized Kansas communities are doing to promote economic development and whether or not they have developed strategic plans.[1] The survey covered thirty cities with populations between 10,000 and 50,000. In each city, the city manager or another top official familiar with economic development was surveyed. As Figure 1 shows, the majority of the towns are not part of a metropolitan area.

Figure 1
Kansas Communities Surveyed


Atchison
Leavenworth
Manhattan
Junction City
Hays
Salina
Shawnee
Merriam
Prairie Village
Lawrence
Lenexa
Leawood
Ottawa
Great Bend
McPherson
Emporia
Garden City
Hutchinson
Newton
El Dorado
Dodge City
Chanute
Derby City
Pittsburg
Parsons
Winfield
Independence
Liberal
Arkansas City
Coffeyville

Source: Institute for Public Policy and Business Research, 1989.

Table 1 shows that the groups primarily responsible for economic development are well represented in this analysis, although city government is slightly over-represented, and public/private nonprofit organizations are slightly under-represented.

In this article we will describe what communities are doing for economic development rather than prescribe what they should do. These descriptions will provide a context within which each community may examine its own economic development efforts. The survey results cover six topics: organizational structure, financing, cooperation, planning, strategies, and current efforts.

Organizational Structure

Organizational structure for encouraging economic development can be classified according to three models: 1) a government model, 2) a chamber of commerce model, and 3) a partnership model.

In the government model, economic development leadership is provided by the city or county governments or a multi-government agency that is a combination of city and county governments. Ten of the thirty communities surveyed fall into this category; eight can be sub-classified as city government leadership and two as multi-government leadership. In the eight cities where the city government is the primary leader, four of those communities have no economic development director; the city manager or city administrator performs the economic development function. In the other four communities that do have a director, the director reports directly to the city manager. In one of the two communities with the multi-government approach, the director is the city manager. In the other community, the director works for the multi-government organization.

The chamber of commerce model consists of the chamber taking the leadership role in economic development. Nine of the thirty communities fit into this model. Two of nine communities that employ this approach also have public/private partnerships. Since these partnerships, however, do not take the lead role, the community was not classified as one organized by a partnership. Under this model, if the community has an economic development director, the director works for the chamber. In only one case did the director not work for the chamber but for a shared partnership corporation between two cities. If there is no director, a chamber executive performs this function.

The partnership model involves a public/private organization taking the lead in a community's economic development effort. The organization can be a for-profit or not-for-profit corporation. In some cities it is called an economic development corporation, in others a commission, and in still others a coalition. No matter what the organization's title, it is a partnership between the government and the private sector. Eleven of the thirty communities fall under this classification; ten are nonprofit and one is for-profit. In six of the eleven communities, the economic development director works for the partnership. In the other five communities the economic development director is a chamber executive or other employee of the chamber. In several of the communities it is difficult to separate the chamber from the partnership. For example, in Hays, the Ellis County Coalition for Economic Development and the Chamber of Commerce are almost the same entity: the economic development director works for the coalition and is also the chamber president. Another example is McPherson. While the McPherson Industrial Development Company, Inc., takes the lead role for the community economic development efforts, it is the chamber that provides the staff for this for-profit partnership. Table 2 categorizes the communities surveyed by their primary economic development organizations.

Kansas community economic development efforts can be categorized according to three models, but there is usually some overlap of economic development leadership functions. Although a community may conform to the city government model, there may be frequent cooperation between the city and the chamber of commerce. The same holds true for those communities organized by the chamber. Our research results indicate that the city and private organizations for economic development usually work together at least to some extent. This is a good sign for the future of community economic development because other research has indicated that no matter who is primarily responsible for economic development efforts, public and private sectors must work together to respond to changes in the community and in the external environment.[2]

Table 1
Interview Subjects and Economic Development Responsibility

Organization	Interviewed	Primarily Responsible
City government	13	8
Chamber of commerce	8	9
Multi-government agency	1	2
Public/private Non-profit corporation	7	10
Public/private For-profit corporation	1	1
Total	30	30

Source: Kansas Center for Community Economic Development, Survey of Community Economic Development, Institute for Public Policy and Business Research, March 1989.

Table 2
Community Economic Development Leaders

Primary Economic Development Organization	Cities
City government	Chanute, Derby City, Leawood, Liberal, Merriam, Pittsburg, Prairie Village, and Shawnee
Chamber of commerce	Arkansas City, Emporia, Hutchinson, Independence, Lawrence, Lenexa, Manhattan, Salina, and Winfield
Multi-government agency	El Dorado and Junction City
Public/private not-for-profit corporation	Atchison, Coffeyville, Dodge City, Garden City, Great Bend, Hays, Leavenworth, Newton, Ottawa, and Parsons
Public/private for-profit corporation	McPherson

Source: Kansas Center for Community Economic Development, Survey of Community Economic Development, Institute for Public Policy and Business Research, March 1989.

Our research shows that for urban communities the local government is most likely to take the lead in organizing economic development efforts, while in rural communities, the chamber of commerce takes the initiative. Of the six urban communities surveyed, the city government organizes for economic development in five. Of all thirty communities, city government organizes for economic development in eight.

Over 70 percent of the communities surveyed have an economic development director. Nine work for chambers of commerce; eight report to public/private corporations. Two communities, Coffeyville and Independence, share a director through the Montgomery County public/private corporation. Only four directors are employed by local government. Not all economic development directors are full-time; some are part-time and wear several hats for the community. The cities that do not have an economic development director, with the exception of Prairie Village, have populations of less than 20,000 (see Table 3).

Table 3
Communities that Do Not Have an Economic Development Director

City	Population*	Location
Arkansas City	12,990	rural
Derby City	12,940	urban
Dodge City	19,710	rural
El Dorado	10,990	rural
Leawood	16,070	urban
Merriam	12,020	urban
Prairie Village	23,820	urban
Winfield	11,650	rural

*1986 estimate, U.S. Bureau of the Census.

Source: Kansas Center for Community Economic Development, Survey of Community Economic Development, Institute for Public Policy and Business Research, March 1989.

Financing Economic Development

Despite its relatively low-profile leadership role in economic development, the public sector is primarily responsible for financing economic development efforts. Table 4 shows the 1989 budgets from twenty-one of the thirty medium-sized cities. According to these figures, 83.8 percent of economic development expenditures come from the city and county. For 1989, medium-sized Kansas communities have budgeted over $2.6 million for economic development. This amount would be even higher if in-kind contributions were included.[3]

The level of funding for economic development varies considerably across Kansas. Of the twenty-one communities that we have data for, Hutchinson spends the most, $215,000 per year, and Chanute spends least, $48,500 per year.

Cooperation and Economic Development

A comprehensive economic development effort requires public/private cooperation within a community. Private and public sectors cooperate to promote economic development even in communities that are organized according to the government or chamber of commerce model. Cooperation also frequently extends beyond the city boundaries. Some communities and counties pool their resources and coordinate their efforts. The motivation for cooperation across political boundaries is to improve marketing efforts and to use resources more efficiently. Smaller and

Table 4
Economic Development Expenditures

	1989 Budget	Sources of Funding City	County	Private	Other[*]
Atchison	$ 94,100	$ 94,100	$ --	$ --	$ --
Chanute	48,500	48,500	--	--	--
Coffeyville/Independence/ Montgomery County Action Council	103,000	27,500	65,000	10,000	--
El Dorado					
El Dorado Inc.	60,000	30,000	--	30,000	--
Butler County	129,000	--	129,000	--	--
Emporia	72,365	44,390	15,000	12,975	--
Garden City	100,000	20,000	60,000	20,000	--
Great Bend	131,500†	61,000	160,000	--	--
Hays					
Coalition for Economic Development	116,900	63,000	--	33,900	20,000
Ellis County	81,370	--	81,370	--	--
Hutchinson	215,000	75,000	140,000	--	--
Junction City	175,000	57,500	57,500	--	--
Lawrence	130,000	30,000	50,000	50,000	--
Leavenworth	100,000	--	50,000	31,000	--
Lenexa	163,000	135,000	--	22,000	--
Liberal	80,000	60,000	20,000	--	--
Manhattan	180,000	65,000	45,000	70,000	--
McPherson	125,000	36,000	50,000	3,000	36,000
Newton	154,000	68,000	44,000	42,000	--
Ottawa	84,000	50,000	30,000	4,000	--
Pittsburg	151,000	151,000	--	--	--
Salina	169,600	85,000	20,000	25,000	20,000
Total	$2,663,335	$1,200,990	$1,016,870	$353,875	$ 76,000

[*] Local utility companies and airport authorities.

† Seed capital pool ($81,000) and highway program ($8,500) not included in total.

Source: Helga Upmeier, *Comparisons of Economic Expenditures in Kansas Communities*, Institute for Public Policy and Business Research Monograph Series, no. 162, March 1989, 5.

Note: Funds for travel and tourism promotion are not included. In some cases sources of funding do not equal the figures for 1989 budgets because figures for sources were unavailable and/or partially estimated. This table includes only twenty-one of the thirty cities from the March 1989 Survey of Community Economic Development. Arkansas City, Dodge City, Parsons and Winfield were not included in the table because their 1989 budget was not available for analysis. Derby City, Leawood, Merriam, Prairie Village, and Shawnee were not included in the table because they were not part of the February 1989 Financial Survey.

poorer cities and counties, in particular, can work together to compete more effectively with larger and wealthier communities.[4]

Of the thirty communities surveyed, seventeen cooperate with county government to promote economic development. Only nine communities or about 30 percent, however, have worked with counties outside their own to further economic development. Cooperation with other counties has either been with contiguous counties or through a regional organization. Mid-America, Inc., in southeast Kansas is an example of a regional organization whose member communities cooperate on a regional basis. Since 1957 this organization has operated as a private not-for-profit corporation whose primary strategy is to recruit industry into the region.

Seventeen of the communities, or 57 percent, work with other cities to promote economic development. The cities cooperate primarily with smaller communities from their county-wide organization.

Strategic Planning

Strategic planning has been defined as positioning the community by candidly assessing its strengths and weaknesses, appraising changes affecting the community, setting goals, and making a plan of action.[5] It can be important part of economic development. Not only does strategic planning give a community a focus, but it results in a strengthened sense of partnership among government, business, and education. Strategic planning makes management more effective.

According to the survey results, only five of the thirty communities have a written strategic plan.[6] The plans for these communities were all developed within the past three years through a joint public and private effort. The cities that have strategic plans range in size from just under 11,000 to just over 19,500.

While relatively few communities have strategic plans, a considerable number will develop such plans in the future. Eighteen of the communities, or 60 percent, said they would like such a tool for their city. Most of the economic development representatives reported that government and the business community both support such initiatives. A few, however, doubt whether community leaders would join together to form such a plan.

Furthermore, although only five of the thirty communities actually have strategic plans, more communities are moving in that direction. Five are currently working on developing some sort of strategic plan, and one city is including an economic development policy in its comprehensive plan. Six communities mentioned that they set goals and objectives on an annual basis. Since 1985, ten communities have had an outside assessment of their strengths and weaknesses.

A strategic plan improves a city's chances for success in two ways. First, through the planning process the city establishes realistic expectations and defines sensible methods of pursuing those expectations. Second, in the process of developing the plan, the community builds coalitions among local organizations that can be mobilized to efficiently and effectively use available resources.[7]

Strategic planning benefits every community. While they may be seen as a lot of work, strategic plans result in more than just a plan. They build consensus among various actors and clarify the roles of those actors within the city. A strategic plan also creates a better understanding of the community and provides long-range direction.

Economic Development Strategies

In general economic development strategies are to recruit existing business from other locations, to foster the creation of new business, and to help existing business expand. Studies have shown that more (net) new jobs come from existing firms, certain kinds of small businesses, and new firms than from recruiting branch plants.[8]

Most cities surveyed recognize the importance of existing business, but they may not yet have directed their strategies toward encouraging them. Only 40 percent of the communities surveyed make expansion and retention of existing business their number one objective. Only eighteen communities have programs to encourage retention and expansion, and most programs are informal. Only eight cities, or 44 percent, call on local businesses more than once a year.

Among the communities that do contact local businesses more than once a year, four cities have committees that call regularly on local establishments. In one urban community, the chamber has a half-time staff member devoted to business retention, and another city makes it a point to take four plant managers from the community to lunch every two weeks to determine their needs or problems. In the communities surveyed, the chambers of commerce are the forces behind these programs: only one city government is formally involved in determining the needs of existing businesses.

The entrepreneur with a new business receives even less attention than the established local business, although new business is an important source of job creation. Some of the communities in our survey have programs to help entrepreneurs with new businesses, but as Table 5 shows, the fewest resources go for assisting entrepreneurs. Four communities responded that they devote zero resources to this strategy. Nevertheless, seven of the thirty communities have recently founded business incubators, and four more are interested in developing one. Entrepreneurship is also supported through the availability of seed or venture capital funds in eight of the communities. Five have been established through the communities; three were created by private business.

Six communities, 20 percent, said recruiting outside companies is their primary strategy for economic development, and eight cities devote 50 percent or more of their resources to that strategy. Thirty percent listed a combination of recruiting, retaining, and helping entrepreneurs. Two cities said they have no primary strategy.

Table 5
Resources Devoted to Economic Development Strategies

Economic Development Strategy	Mean	Minimum	Maximum	N
Recruiting outside companies	39.05%	5%	80%	22
Retaining & assisting existing	43.50	9	90	22
Assisting entrepreneurs	15.32	0	34	19

Source: Kansas Center for Community Economic Development, Survey of Community Economic Development, Institute for Public Policy and Business Research, March 1989.

Economic Development Efforts

Most communities try to make themselves attractive to new industries and most encourage current companies to stay in town. To give themselves what they consider to be a slight edge, cities offer various incentives, from money, to speculative buildings, to infrastructure improvements.

One popular economic development venture is the industrial park. All but two cities have them. Half have more than one, and some industrial parks have existed since the 1940s. Of the two communities that do not have industrial parks, both are urban with a primarily residential tax base.

Enterprise Zones are almost as popular. Twenty-six of the thirty communities have such zones. Most of them were established within the first two years after the state passed the legislation authorizing such zones. All four of the communities that do not have an Enterprise Zone are part of an urban area.

As Table 6 shows, almost all of the communities offer financial incentives to encourage economic development. The one they used most often in the

Table 6
Economic Development Incentives Used in the Past Two Years

Economic Development Incentive	Cities Using Incentive
Infrastructure	21
Tax abatements	19
Issuance of tax-exempt bonds	19
Direct loans to private business	13
Donations of unused real property	9
Loan guarantees	8
Loan subsidies	6
Sale-leaseback	6
Direct cash contribution	6
Shared equity	1

Source: Kansas Center for Community Economic Development, Survey of Community Economic Development, Institute for Public Policy and Business Research, March 1989.

past two years lies in the traditional realm of city services--infrastructure improvements. Twenty-one of the thirty cities have improved infrastructure to encourage economic development. Tax abatements and tax-exempt bonds fall second in line, with nineteen communities citing their use.

If a community offers financial incentives for industrial recruitment, they should be designed so that the benefits of the new industry to the community exceed the community's costs. Financial incentives should be targeted for firms that complement the community's existing economic base. Incentive packages offered to business should also increase the productivity of the local economy. It has been argued that they should stress training for workers, enhanced research capabilities at nearby educational institutions, and improvements in local schools and public facilities.[9]

It can also be argued that incentives offered to recruit firms should also be available on comparable terms for existing firms that want to expand and for entrepreneurs starting new businesses. Incentives should be conditional on the creation of jobs that match the skill level of the community. The agreement between the community and the business should include a timetable specifying the number and skill-level of jobs to be created.[10] The review process and penalties for noncompliance should be clear. While our survey did not explore the conditions associated with the use of incentives or who was receiving the incentives, these are important issues. Some communities are adopting policies or guidelines to help them decide what concessions they can offer.

Many communities have various ways to market themselves aside from offering incentives to lure businesses. Since business people never have all the information they need to select the one best location for their business, a community with a marketing program has an edge. Still, nine of the thirty communities surveyed have no marketing strategy. The remaining twenty-one use a broad range of strategies, from national advertising to video production. Direct mail is the most common marketing effort. Nine of the twenty-one cities, or 43 percent, use direct mail campaigns to attract new businesses. Advertisements in various media and videos depicting the city are the runners up: eight cities (38 percent of the cities that did some form of marketing) have produced videos and advertisements. The advertisements are a long-standing strategy, while the videos are a relatively new way to promote the communities.

Several of the cities, about 29 percent, said they rely on state efforts to promote them. Most cities participate in Kansas Cavalry expeditions. Finally, two of the twenty-one cities that have marketing strategies put resources into national advertising.

An effective marketing strategy requires background work if it is to help a community improve and exploit its competitive position. First, the local business climate must be evaluated from the perspective of potential investors. Second, the potential for capital investment within the community must be evaluated. Third, a realistic target market should be identified: businesses likely to make additional investments in a business facility and those that could profitably locate in the community. Fourth, business climate deficiencies should be mitigated where possible.[11]

Most communities have not done the background work for their marketing efforts. Their objective is more simply to use the media to project an image.

Conclusions

All of the cities in the survey recognize the need for economic development. Each city, however, defines economic development according to its own standards, each is at a different point in creating an economic development program, and their strategies are diverse. Nevertheless, several conclusions can be drawn from the survey results.

1. Medium-sized communities are almost evenly split in their organizational approach between the three models: government, chamber of commerce, and public/private partnership. Urban and rural communities tend to differ, however, in the way they organize their economic development function. In the urban communities the local government generally takes the lead in economic development, while the more rural communities rely more heavily on either chambers of commerce or public/private corporations.
2. Despite the fact that the private sector seems to be leading the way, it is the city and county governments that

are actually financing economic development initiatives. But city and county governments both are striving to become more actively involved in economic development.

3. Few communities work with communities outside their own county. Cities that do work with communities outside their home county generally work with a regional organization.

4. Only five communities have a strategic plan for economic development, but many economic development organizations and local governments routinely set goals and objectives or have had an outside agency assess their strengths and weaknesses.

5. The primary economic development strategy for medium-sized communities is assisting and retaining existing business. Several respondents, however, listed recruiting industries from outside the community as their primary strategy. Fostering entrepreneurship is not the primary strategy for any of the communities, and the fewest resources go to this strategy.

6. Finally, virtually every community believes it needs to offer financial incentives to encourage economic development. The few that do not are urban communities that describe themselves as primarily residential.

A common remark about economic development was that it is a tough business. People realize that communities are competing with each other at all times, each one trying to edge ahead of the others. Many feel they need to become more aggressive.

Yet, many people believe their cities have come a long way in the past few years. Cities are moving toward more formal economic development programs, complete with their own directors. People believe Kansas and its communities have potential, but that a better game plan is needed.

Notes

1. The Kansas Center for Community Economic Development was created in 1988 through a grant from the U.S. Economic Development Administration. The Center is a joint effort of the Institute for Public Policy and Business Research at the University of Kansas and the Kansas Center for Rural Initiatives at Kansas State University. The statements, findings, conclusions, recommendations, and other data in this article are solely those of the Center and do not necessarily reflect the views of the U.S. government.

2. Toft, "Strategic Planning for Economic and Municipal Development," 9-10.

3. In-kind contributions play a significant role in some communities. They include office space, management, staff assistance, and equipment. Since the monetary value of in-kind contributions is difficult to measure, they are not included in this survey.

4. National Council for Urban Economic Development, *Regional Cooperation*, 3.

5. City of West Lafayette, Indiana, 1.

6. The cities are El Dorado, Dodge City (in the process), Hays, Liberal, and McPherson.

7. National Council for Urban Economic Development, *Developing Strategies for Economic Stability and Growth*, executive summary.

8. National Governors' Association, 37.

9. National Governors' Association, 40-41.

10. National Governors' Association, 41.

11. National Council for Urban Economic Development, *Developing Strategies for Economic Growth and Stability*, 6-7.

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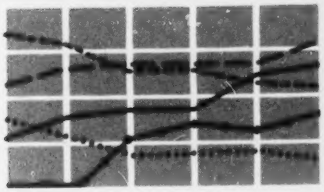
Gross State Product Trends in Kansas



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Effective public policy for Kansas, as for any state, depends on a good understanding of recent economic trends and the relationship between the Kansas economy and the national economy. We analyzed recently released data on the Kansas state product in order to add to previous work on the subject, which has mostly been limited to analysis of Kansas employment and personal income data. Gross state product is analogous to gross domestic product in that it provides a measure of the market value of all final goods and services produced in the state economy in a year.[1]

In this article we use gross state product (GSP) data to

1. study the industrial composition in Kansas and historical trends from 1963 to 1986;
2. identify and classify the leading industries and the lagging or passive industries in the state; and
3. investigate causal relationships between the national economy and the Kansas economy and its various industries.

Real GSP in Kansas grew at an annual rate of 2.14 percent from 1963 to 1986, only slightly slower than real gross domestic product, which averaged 2.69 percent per year. In per capita terms, however, Kansas gross state product grew slightly faster than gross domestic product, since population grew more slowly in Kansas than in the nation. Real per capita GSP growth averaged 0.71 percent in Kansas, while real per capita gross domestic product grew 0.69 percent.

Table 1 shows that in Kansas from 1963 to 1986 wholesale trade, services, transportation and communication, manufacturing, and finance grew fastest, with average annual increases in the value of production ranging from 3.16 percent to 5.39 percent. Retail trade, agriculture, and government grew very slowly but close to national rates. On average the value of production in mining and construction decreased during the period.

Private industry growth in Kansas tied and sometimes exceeded the national rates in all major nonmanufacturing sectors except mining, retail trade, and finance. In manufacturing, the value of Kansas production grew faster than the value of U.S. production. Kansas manufacturing grew 3.44 percent a year, with durable goods production growth averaging 3.26 percent and nondurable goods 3.68 percent. Mining and construction growth were significantly below the national rates, but farm production rose slightly above the national trend with 1.80 percent growth.

Within the manufacturing sector, growth was strong in the durable goods subsectors of electrical equipment (12.20 percent), instruments (10.36 percent), and miscellaneous manufacturing (8.16 percent). Among nondurables, apparel, paper, and printing and publishing exhibited the strongest growth. The only Kansas manufacturing industries where production (in real terms) decreased during the period were furniture and fixtures, petroleum refining, and leather.

Among nonmanufacturing sectors, growth in the market value of services averaged 4.13 percent a year. The nonmanufacturing subsectors experiencing the greatest growth were business services, miscellaneous repair services, and miscellaneous professional services. The Kansas finance sector averaged 3.16 percent growth a year, slightly below the national rate of 3.66 percent, with banking averaging a surprisingly high growth rate of 6.55 percent, far outpacing the national rate of 4.05 percent.

To better understand the changes occurring in the Kansas GSP from 1963 to 1986, we grouped industries according to their mean annual rates of growth over the period. Three groups of industries were identified: 1) negative growth industries; 2) low positive growth industries; 3) high positive growth industries. These groups were identified through the use of *quick cluster*, a form of cluster analysis.[2] This type of analysis groups or clusters objects of a heterogeneous group into smaller clusters of homogeneous objects based upon criteria (i.e. mean annual growth rates) specified by the researcher.

The objects in a cluster are thus very similar to other objects in the cluster and very dissimilar to objects contained within other clusters. We were thus able to use the procedure to form three industry groups or clusters based upon whether the industries grew at negative (mean annual) rates, low positive rates, or high positive rates. Table 2 shows the three clusters that were formed.

Nine out of the fifty-seven industries were grouped in the negative growth cluster, thirty-four in the low growth cluster, and fourteen in the high growth cluster. For the negative cluster, changes ranged from -5.42 to -0.17. In the low growth group, growth rates ranged from 0.11 percent to 5.40 percent. This is the largest and most di-

Table 1
Average Industry Growth Rates, 1963 to 1986

	U.S.	Kansas
Agriculture	1.56	1.74
Mining	0.67	-5.21
Construction	-0.92	-0.98
Manufacturing	2.59	3.44
Transportation, communication, and public utilities	3.59	3.45
Wholesale trade	3.89	5.39
Retail trade	2.95	2.10
Finance, insurance, and real estate	3.66	3.16
Services	4.08	4.13
Government	1.82	1.64
Total	2.69	2.14

verse group of industries, including several entire sectors and subsectors of every other sector except construction. Growth rates for subsectors in the high growth cluster ranged from 6.55 percent to 12.20 percent.

A similar clustering of industries for the United States allows a comparison with Kansas. For the United States, the negative growth cluster included nine industries, the low to medium growth industry group had thirty-one, and the high growth industry group, seventeen.

Six out of the nine Kansas declining industries are also found in the depressed cluster for the nation, twenty-four out of the thirty-four Kansas low-growth industries also belong in the national low-growth group, and finally, nine out of the fourteen Kansas high-growth industries are also classified under the national high-growth industry group.

Growth patterns among the three national industry groups differed from those of Kansas. Declines in national industries were less severe than for Kansas. The maximum U.S. decline was -2.93 percent, while that of Kansas was -5.42 percent. Additionally, U.S. high positive growth industries grew less rapidly than those of Kansas. National industries of this group grew from 4.05 percent to 6.25 percent. The Kansas high positive growth group of industries grew from 6.55 percent to 12.20 percent.

A comparison of the three group centroids (i.e. statistics derived through cluster analysis describing the central growth values around which the various industrial groups tend to cluster) further illustrates that Kansas industries experienced variation in growth rates more pronounced than those of the United States. Centroid values were as follows: 1) Kansas negative growth industries, -2.27 percent, U.S. -1.09 percent; 2) Kansas low growth industries, 3.09 percent, U.S. 2.46 percent; 3) Kansas high growth industries, 8.07 percent, U.S. 4.92 percent. It would appear that the Kansas economy is more volatile than the national economy.

Causality Tests

The sensitivity of a state economy to changes in national macroeconomic variables has been shown to differ among states, and several economists have examined possible causes of the differences.[3] Sensitivity to the national economy also varies among economic sectors within a state.

Granger causality test results show that changes in the national economy result in changes in the Kansas economy with a one-period lag, while Kansas gross state product has no effect on gross domestic product. The Granger tests used are discussed in the Appendix.

Granger tests showed that changes in gross domestic product for the national sector did not help explain changes within the Kansas economy. Tests applied to the ten major Kansas industries did show that one Kansas industry, construction, helped explain changes in national economic activity during the period, but the finding may be spurious for reasons discussed below.

One reason that U.S. gross domestic product for the various sectors does not appear to affect the performance of individual sectors of the Kansas economy could be that the Granger causality test assumes symmetry in the relationship between the variables.[4] A symmetrical relationship exists between variables only if the variables demonstrate a high degree of consistency in the lead or lag relationship postulated. If a variable is postulated to have a lead relationship, for example, the variable should consistently demonstrate a lead relationship. If the variable is considered a lag variable, it should consistently lag the variables it is postulated to lag. For example, if a state economy leads a nation into expansion, then it should also go into a recession before the nation as a whole. Similarly, the

Table 2
Industry Clusters, Kansas and U.S.

Kansas High Positive Growth Cluster	U.S. Cluster	Kansas High Positive Growth Cluster	U.S. Cluster
Primary metal	negative	Machinery except electrical	high
Electrical equipment	high	Instruments	high
Miscellaneous manufacturing	low	Apparel	low
Paper	low	Printing	low
Air transportation	high	Transportation services	high
Communications	high	Banking	high
Business services	high	Miscellaneous professional services	high

Kansas Low Positive Growth Cluster	U.S. Cluster	Kansas Low Positive Growth Cluster	U.S. Cluster
Farms	low	Agriculture & forestry services	low
Coal	low	Nonmetallic minerals	low
Lumber and wood	low	Stone and clay	low
Fabricated metal	low	Motor vehicles	low
Transportation equipment	low	Food	low
Chemicals	high	Rubber	high
Railroad	negative	Trucking	low
Pipelines except gas	low	Electrical and gas services	high
Wholesale trade	high	Retail trade	low
Credit agencies	high	Holding companies	high
Insurance carriers	low	Insurance agents	low
Real estate	low	Hotels	low
Personal services	negative	Auto repair	high
Miscellaneous repairs	low	Amusement	low
Health	high	Legal services	low
Education	low	Social services	low
Federal civilian agencies	low	State and local government	low

Kansas Negative Growth Cluster	U.S. Cluster	Kansas Negative Growth Cluster	U.S. Cluster
Oil and gas	negative	Construction	negative
Furniture	low	Petroleum refining	low
Leather	negative	Local and urban transit	negative
Motion pictures	low	Private household services	negative
U.S. military	negative		

state should begin the subsequent expansion before the nation as a whole, and so forth. If the data are not symmetric, results of Granger tests showing causality may simply reflect what occurred in the years observed instead of a valid lead or lag relationship.

To test for symmetry in the relationship between the Kansas economy and the national economy, we used the growth trend of gross domestic product from 1963 to 1986. We identified three business cycles and divided each cycle into upturn and downturn periods. For each upturn and downturn period, we computed Kansas and national mean annual growth rates for the total economy as well as for each sector. We then compared Kansas total and sectoral mean growth rates using t-tests of dependent samples. The t-test statistics represent differences of the Kansas means and the U.S. means for totals and sectors, as a ratio of their respective standard errors. The t values show whether there is any significant difference between Kansas and U.S. growth over time.

The symmetry test results as shown in Table 3 indicate that the relationships between the Kansas economy and the national economy are not symmetrical, and therefore whether or not

Table 3
Results of Symmetry Tests, Various Time Periods

Sector	1963-69 (Downturn)	1970-73 (Upturn)	1973-75 (Downturn)	1975-78 (Upturn)	1978-82 (Downturn)	1982-86 (Upturn)
Agriculture	*	*	*	Lag	*	*
Mining	Lead	Lag	*	Lag	*	*
Construction	*	Lag	*	*	Lead	*
Manufacturing	*	Lead	*	*	*	*
Transport	*	*	*	*	*	*
Wholesale	*	*	*	*	*	*
Retail	*	Lead	*	*	*	*
FIRE	*	*	*	*	Lag	*
Service	*	*	*	Lead	*	Lag
Government	*	*	*	*	*	*

*Not different from the national trend.

the results show causality depends on which time period the data are from. For instance, during the 1975-1978 recovery period, Kansas agriculture lagged the nation, but the sector's growth did not differ significantly from the national trend during the following downturn. We earlier indicated that the lead relationship of Kansas construction to national construction may have been spurious. The relationship between the state sector and the national sector was not symmetrical. Kansas construction did not consistently lead national construction. Government, transportation, and wholesale trade were the only symmetric sectors. These state sectors changed concurrently with the associated national sectors during the 1963-1986 period.

Conclusions

Gross state product data are a useful measure of the performance of state economies and their sectors. Grouping sectors according to GSP trends from 1963 to 1986 shows that the total value of many types of manufactured goods and services produced in Kansas has been growing, while the value of mining and construction production has decreased and agriculture remains stable.

The results of the Granger causality tests provide little information about the cyclical movements in the Kansas economy, especially at the industry level. National economic activity significantly affects the Kansas economy, but the relationship can not be shown to extend to the sectoral level. Although such a relationship probably exists, it can not be established using the Granger test because the symmetry assumption, basic to regression or correlation analysis, is not valid for the sectoral data. None of the Kansas industries exhibited a consistent and symmetric lead-lag relationship to changes in GDP. Glass's weak results using Granger tests and his conclusion that Kansas sectoral employment relationships depend on the time period used support our contention.[5]

Appendix

Granger causality tests were used to determine the causal relationships, if any, between Kansas GSP and national economic activity. These causality tests use regressions of the following form:

$$KS_t = a_0 + a_1KS_{t-1} + \ldots + a_kKS_{t-k} + b_1US_{t-1} + \ldots + b_kUS_{t-k} + e_t \qquad (1)$$

where KS and US are the logs of Kansas and U.S. real GSP and GDP respectively, a and b are regression coefficients, e is a white noise error term, and k is an integer representing the lag length. This particular test indicates that if the past values of one variable, say US, are significantly correlated with another variable's, say KS, own past values, then there exists a causal influence running from US to KS. In other words, GDP is an apparent cause of Kansas GSP if and only if an F test found the estimated b coefficients to be significant. Of course, if the roles were reversed so that GDP was the dependent variable in equation (1), then KS GSP is an apparent cause of GDP if and only if the b's are statistically significant. If GDP causes Kansas GSP and vice versa, then there is said to be a two-way relationship between the two variables.

Since the F tests used in this study are applicable only in the absence of serial correlation in the residuals, the data series on Kansas GSP and GDP were first made stationary. This was done by examining the plots and autocorrelation functions of the original data series and their first and second differences. The first differences of the logs of the Kansas real GSP and real GDP yielded stationary series. Hence the final specification of equation (1) is:

$$\Delta KS_t = a_0 + a_1\Delta KS_{t-1} + \ldots + a_k\Delta KS_{t-k} + b_1\Delta US_{t-1} + \ldots + b_k\Delta US_{t-k} + e_t \qquad (2)$$

where Δ is the difference operator.

The main problem in applying the Granger causality tests is determining the appropriate lag length. The standard practice is to make an assumption about the form of the distributed lag. The method employed here,. however, is to select the best lag length based on some minimization criterion rather than determining the lag a priori. Thus equation (2) is estimated using different lag lengths. Up to three lags for each data series are incorporated into the equation. Since the series on Kansas GSP and GDP are on an annual basis and since the number of observations is small, the specification should be generous and sufficient for capturing any dynamic relationships. The best form of equation (2), and hence the best lag length, is the one that minimizes Amemiya's prediction criterion (PC). Amemiya's PC is given by

$$PC = \bar{\delta}^2 (1 + q/n)$$

where $\bar{\delta}^2$ is the residual variance, q the number of estimated coefficients, and n the number of observations. The main advantage of Amemiya's PC method is that it is easy to apply and is equivalent to another selection criteria proposed by Akaike. For further discussion about the different selection procedures, see Judge's book, listed in the references.

Granger causality test results show that changes in the national economy resulted in changes in the Kansas economy with a one-period lag, while Kansas gross state product had no effect on gross domestic product. Although changes in GDP add significant explanatory power to past values of changes in Kansas total GSP, the actual reduction in the standard error of the estimate (SEE) was minimal. Comparing the unrestricted form of equation (2) with the restricted 1-lag autoregression of ΔKS, the SEE was reduced from 0.02124 to 0.01979 by adding the lagged ΔUS term. In fact, entering the current or contemporaneous value of ΔUS led to further reduction in the SEE. The finding of a significant contemporary effect means that the effect of changes in national output will be felt in the Kansas economy within a relatively short span of time.

Notes

1. Gross state product is the sum of employee compensation, proprietors' income (adjusted for capital consumption and changes in inventory), indirect tax and nontax liability to government, and other capital charges. For a more detailed discussion of Gross State Product and its methodology, see Renshaw, Vernon, et al. (1988).

2. The method used is explained in SPSSX: User's Guide (1986). For extended coverage of the process, see Romesburg, 1984.

3. For example, Sherwood-Call (1988) developed a measure of the "strength of linkage" between the state and the overall U.S. economy and observed that states that are larger, more diverse, more dependent on manufacturing, and less dependent on farming and oil production tend to have stronger linkages to the national economy. Belongia and Gilbert (1987) also analyzed the state-national relationship by regressing the growth rate of regional personal income on the growth rate of GDP. Grouping the fifty states according to "farm" and "nonfarm" region, they found no significant differences in the two groups' reactions to changes in the national output.

4. See Johnston (1983) for an application of the test of symmetry.

5. Glass (1988-1989) used causality tests on several northeastern Kansas subregions.

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Economic Outlook for Kansas and the Nation

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The U.S. economy will enter a period of very slow growth coupled with lingering inflationary pressures during the second half of 1989. Of the major sectors of the U.S. economy, only exports will exhibit strong growth during the second half of the year, driven by continued strong economic growth of our major trading partners. The Federal Reserve Board will be put in the precarious position of having to continue its stand against inflation, while trying to cushion the downturn in economic growth; it will have little, if any, room to maneuver. Interest rates will end their fifteen-month rise, and will fall somewhat as the Fed eases credit to avoid pushing the economy into a recession. Inflationary pressures will continue to be felt throughout the second half of the year, inflation for the year averaging about 1.2 percentage points above last year's average.

The sluggish performance of the national economy in 1989 will be mirrored in the performance of the Kansas economy. Employment growth will be significantly slower than in 1988. Manufacturing employment will grow only two-thirds as fast as it did in 1988, with last year's robust growth in durable goods manufacturing nearly cut in half as consumers, businesses, and government all reduce their purchases of big ticket items. Kansas real personal income growth will also be lower in 1989, as the slow economic growth in general and the effects of the drought on the farm sector work to depress income growth. These are the highlights of the national and Kansas forecasts developed at the Institute for Public Policy and Business Research and presented below.[1]

The National Economy

The remainder of 1989 will be a trying period for the national economy and for national policy makers. Output will grow very slowly, while the price level continues to rise significantly, driven by higher food and energy prices. The Federal Reserve Board will have little room for miscalculation as it attempts to steer a course between a national recession and excessive inflation. The detailed forecast for the U.S. economy, presented below, is based on the following assumptions:

1. Faced with a slowing economy and signs that inflationary pressures continue to be a real concern, the Federal Reserve Board will loosen monetary policy somewhat. M2 will grow much faster during the second half of the year than it did during the first half, 5.3 percent compared to 1.4 percent, but will still average only 3.3 percent for the year. The Fed will feel the constraint imposed by the slow growth of the economy, and will permit interest rates to fall during the rest of the year. At the same time, the Fed's belief that it is the only policy maker that can battle inflation will prevent it from dropping rates dramatically to stimulate the flagging economy.
2. Fiscal policy will be slightly restrictive. Real government purchases will be lower in 1989 than they were in 1988 as a result of large reductions in real defense expenditures.
3. The dollar[2] will weaken slightly during the second half of the year, decreasing at an annual rate of about 2 percent, after increasing at an annual rate of 18.3 percent during the first half of the year.
4. Real GNP growth for the rest of the OECD[3] countries will be 3.0 percent over the forecast period.
5. Imported oil prices will increase at a 4 percent annual rate during the second half of the year, following an annual rate of increase of 55 percent during the first half of the year.

The U.S economy will slow during the last three quarters of 1989, with the economy growing only 2.2 percent for the year, compared to a healthy 3.9 percent growth during 1988. Much of the 1989 growth will be due to the 4.3 percent growth (annual rate) during the first quarter. A significant portion of the first quarter growth comes from the rebounding of farm output from the effects of the 1988 drought. If this effect is ignored, real GNP grew only 2 percent in the first quarter. During the last three quarters of the year national output will remain nearly flat, growing at only a 0.4 percent annual rate.

The major components of GNP will all grow more slowly in 1989 than they did in 1988. The exception is government purchases of goods and services, which hardly grew at all in 1988 but will increase slightly this year.

Consumption

Consumer spending, influenced by a weakening of consumer confidence and continuing high interest rates, will grow only 2.2 percent in 1989 compared to 2.8 percent last year. The effects of higher interest rates will be felt particularly in the reduction of demand for durable goods, which will grow only 1.3 percent this year after growing a strong 4.8 percent in 1988. Among durable goods, the big ticket items will be hit the hardest, with new auto sales actually declining 2.7 percent this year, in comparison to a robust 5.4 percent growth last year.

Big price increases will cause consumer purchases of gasoline and oil to grow only 0.9 percent this year, down from last year's 1.4 percent, while consumption of fuel oil and coal will decrease 7.7 percent after growing 6.3 percent in 1988. Consumption of services will increase 3.2 percent, slightly less than last year's 3.5 percent increase.

On the other hand, consumption of nondurable goods will grow 1.3 percent in 1989, an increase over 1988's 1.0 percent increase. Contributing factors will be consumption of food and clothing, which will increase 1.4 and 1.7 percent respectively. These two areas grew only 0.6 and 0.3 percent last year.

Investment

Nonresidential investment spending, which was one of the main sources of strength last year, when it grew 9.5 percent, will grow only modestly this year at a rate of 3.1 percent. While investment in equipment will grow 3.5 percent, down from last year's 13.4 percent growth, there will be a modest 2.1 percent increase in investment in nonresidential structures following a 0.4 percent decline in 1988. Similarly, investment in residential structures will increase 1.9 percent in 1989 compared to a 1.7 percent decrease last year.

Exports

In spite of the surprisingly strong dollar, exports will continue to be an area of strength in 1989, due to the strong economic growth of major trading partners. Although the rate of export growth will be only about half of 1989's 18 percent, this year's 8.7 percent growth is still robust. Furthermore, the slower pace of the U.S. economy will mean that imports will grow more slowly this year than last, 6.5 percent compared to 8.7 percent. Thus there will continue to be some improvement in the trade balance. The deficit in net exports will decline to $96 billion in 1982 dollars, from $100 billion in 1988.

Government

Government expenditures will grow more in 1989 than they did last year, primarily because of growth in Federal nondefense expenditures. Federal nondefense expenditures will grow 13.4 percent this year, after decreasing 9.7 percent in 1988. This will more than offset the 2.4 percent decrease in Federal defense expenditures, leading to a 1.0 percent increase in total Federal expenditures. State and local government expenditures will increase 2.9 percent, about the same as last year. Government expenditures at all levels will thus increase 2.1 percent this year, compared to last year's 0.3 percent.

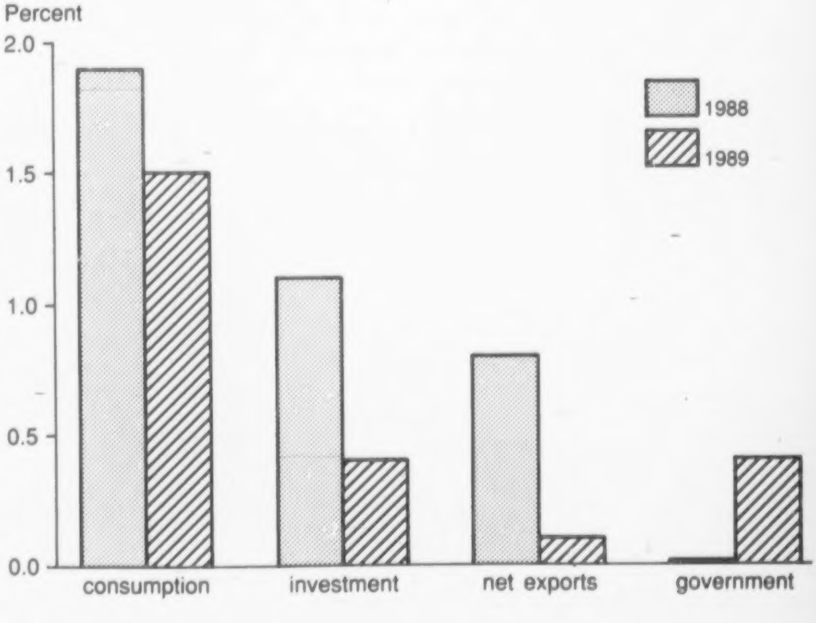
Sources of GNP Growth

One way to get a picture of how the U.S. economy of 1989 is different from that of 1988 is to examine each sector's contribution to GNP. As Figure 1 shows, only government spending will have a bigger impact this year than it did last year, and it will only account for a 0.4 percent increase in real GNP. In 1989 consumption will account for a 1.5 percent increase in real GNP compared with 1.9 percent last year. Nonresidential fixed investment will account for a 0.4 percent increase in real GNP; last year it accounted for a 1.1 percent increase. The improvement in the deficit in net exports will account for only a 0.1 percent increase in Real GNP this year. Last year it accounted for a 0.8 percent increase.

Interest Rates

The sluggish performance of the economy during 1989 will eliminate a great deal of the Federal Reserve's effectiveness in fighting inflation. In an attempt to avoid pushing the economy into a recession, the Fed will have to ease monetary policy somewhat, although it will be reluctant to switch to an all-out expansionary policy in the face of continued inflationary pressures and the inability of the Congress and the administration to check the growth of the federal deficit. The extremely slow 1.4 percent growth of M2 during the first half of the year will be superceded by a more liberal 5.3 percent

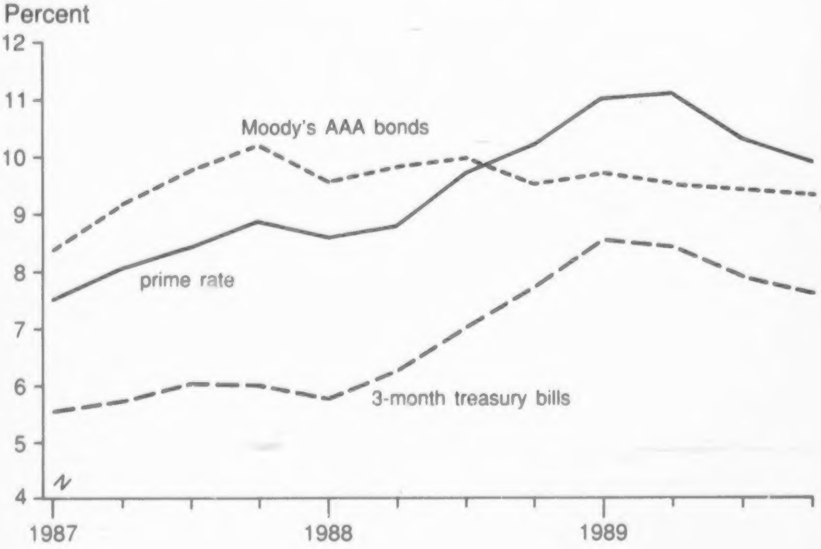
Figure 1
Contributions to GNP Growth



during the second half of the year. This will end the upward movement in interest rates that saw the three-month treasury bill rate move from 5.8 percent in the first quarter of 1988 to 8.5 percent during the first quarter of 1989. The three-month treasury bill rate will dip slightly to 8.4 percent during the second quarter drop to 7.9 percent in the third quarter, and average 7.6 percent for the last quarter of the year. The average for the year will be 8.1 percent.

The prime rate will drop to 11 percent by the end of the second quarter. It will fall further to 10.3 percent in the third quarter and 9.9 percent in the fourth quarter. Moody's AAA bond rate will drop from 9.7 percent in the first quarter to 9.5 percent in the second. It will continue to decline slightly to 9.4 percent and 9.3 percent in the third and fourth quarters, averaging 9.5 percent for the year. The interest rate forecasts for 1989 are illustrated in Figure 2.

Figure 2
Interest Rate Forecasts



Note: Data through 1989 first quarter are historical. The last three quarters are forecasted.

Inflation

In spite of the Fed's efforts to slow the economy enough to put a brake on inflation, prices will rise significantly faster in 1989 than they did in 1988. Although some of the increase is due to such endogenous factors as a tight labor market and high capacity utilization, which can be influenced by monetary and fiscal policy, a large part is due to such exogenous factors as the last year's drought and the increase in the price of imported oil. Overall, the rate of inflation as measured by the rate of change of the consumer price index for all urban consumers will be 5.3 percent compared to 4.1 percent last year. Leading the way will be two products that are directly affected by the exogenous factors mentioned above: food prices will increase 6.2 percent, and motor fuel prices will increase 12.9 percent. If we remove the effects of higher food and motor fuel prices, we find that the rate of inflation for 1989 will be 4.9 percent, compared to 4.2 percent in 1988. Thus inflationary pressure will increase even though the economy will have slowed significantly by the second half of the year.

Table 1 shows changes in price for several classes of products. The apparently slight increase in housing costs, 3.6 percent, is the result of much slower increases in the cost of shelter, household furnishings, and operations offset by acceleration in the price of fuel and utilities. Figure 3 shows the quarterly forecast for inflation.

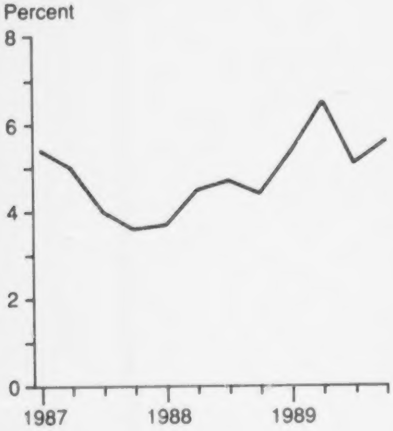
Table 1
Change in Prices (Percent)

Product	1988	1989
Apparel and upkeep	4.3%	4.2%
New cars	2.0	2.9
Used car prices	4.3	3.3
Medical care	6.6	7.1
Medical commodities	6.9	7.6
Medical services	6.5	7.0
Entertainment	4.4	4.6

Employment

Employment growth will slow during the second half of the year as the slowdown in output growth affects the employment decisions of firms. For the year, nonfarm wage and salary employment will grow 2.7 percent compared to 3.5 percent in 1988. During the second half of the year, however, growth will be much slower. Employment growth will diminish from an

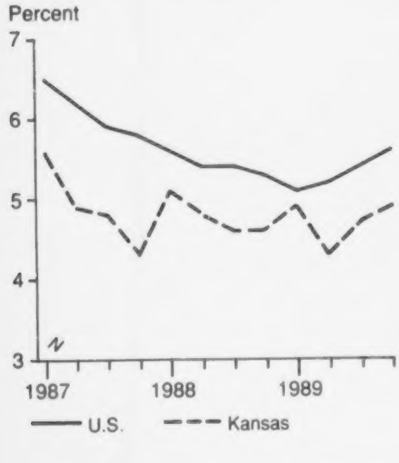
Figure 3
U.S. Rate of Inflation



Note: Seasonally adjusted. Data through 1989 first quarter are historical. The last three quarters are forecasted.

annual rate of 3.5 percent during the first quarter to an annual rate of 1.3 percent during the fourth quarter.

Figure 4
Unemployment Rates



Note: U.S. figures are seasonally adjusted; Kansas figures are not.

The labor force will grow 2.1 percent for the year, with total employment growing 2.2 percent, so that the unemployment rate for the year will be 5.3 percent, slightly less than the 5.4 percent rate for all of 1988. Again, however, the pattern over the course of the year reflects the expected cooling of the economy, as the 5.1 percent unemployment rate of the first quarter climbs to 5.6 percent by the fourth quarter.

Although the unemployment rate will increase during the course of the year, inflationary forces on wages will be slow to wane. Past inflation will affect wage demands in two ways. First, workers will attempt to recoup inflation's earlier erosion of real earnings. Second, to avoid future losses in purchasing power, they will expect compensation for inflation at a rate based on recent experience. Wages will increase at an annual rate of 7.1 percent during the first quarter and 6.4 percent during the rest of the year. A comparison of U.S. with Kansas unemployment rates is given in Figure 4.

Personal Income

Nominal personal income growth is forecasted to be 9.3 percent for 1989 compared to 7.5 percent in 1988. Nearly all of the difference can be attributed to three factors. First because of higher interest rates, interest income will grow 15 percent this year compared to 9.3 percent in 1988. Second, due to the effects of the drought in 1988 and the nationwide recovery during 1989, farm proprietors' income will increase 36 percent compared to a 16 percent decrease last year. Third, because of the slowdown of the economy, transfer payments will increase faster this year, 10.2 percent, than they did last year, 6.8 percent. Factors other than these three accounted for 5.2 percent of the increase in personal income in 1988 and will account for 5.4 percent of the increase in personal income in 1989.

Again the pattern for the year is indicative of the direction of the economy, with personal income growth at 13.4 percent during the first quarter and averaging only 8.1 percent during the last three quarters. Real personal income growth will be 4.2 percent for 1989 compared to 3.3 percent in 1988. Real personal income growth was 8.3 percent for the first quarter but will average only 2.3 percent for the rest of the year. Real disposable personal income will grow 4.1 percent this year compared to 3.8 percent last year. Real disposable personal income grew 7.8 percent during the first quarter, but will average only 1.7 percent growth during the last three quarters. Consumer concern for the future is reflected in the savings rate, which will be 5.9 percent this year as compared to 4.2 percent in 1988.

The Kansas Economy

The slowdown in national economic growth during 1989 will be reflected in a slowdown of the Kansas economy. Nonfarm wage and salary employment will grow 1.7 percent in 1989 compared to 2.8 percent in 1988. Manufacturing employment will grow only 2.1 percent this year compared to 3.0 percent in 1988. Table 2 shows Kansas employment growth by sector.

As consumers nationally reduce purchases of big ticket items, Kansas durable goods producers will feel a weakening of demand. The growth rate of durable goods employment will fall from 4.7 percent last year to 2.5 percent for 1989. Employment growth in every major durable goods subsector will be below the sector's overall 4.7 percent growth of last year. Reductions in corporate after-tax profits and government defense spending will cool the demand for transportation equipment, which makes up a substantial 43 percent of percent of durable goods employment in Kansas.

Nondurable goods manufacturing employment will grow even more slowly than durable goods employment at 1.1 percent, but will increase faster than last year when it grew only 0.6 percent. The nondurable goods category with the biggest decline in employment, apparel manufacturing, represents only about 5 percent of nondurable goods manufacturing employment in Kansas.

Table 2
Kansas Employment Growth

	1988	1989
Durable goods manufacturing	4.7	2.5
Stone, glass, and clay	2.2	-1.6
Fabricated metals	3.3	2.3
Machinery (including electrical)	6.5	2.4
Transportation equipment	4.1	2.7
Primary metals	14.4	9.4
Nondurable goods manufacturing	0.6	1.1
Food and kindred products	-3.6	1.9
Apparel	9.3	-5.3
Printing and publishing	6.5	1.2
Chemicals and allied products	-2.9	0.2
Petroleum and coal products	0.0	0.6
Mining	-7.5	-6.9
Construction	-7.0	-0.3
Transportation and utilities	3.3	1.5
Trucking and warehousing	4.3	4.6
Electric, gas, and sanitary services	4.0	3.5
Wholesale Trade	-2.9	5.4
Retail	3.6	1.3
Food stores	3.1	0.4
Auto dealers and gas stations	4.1	0.8
General merchandise stores	7.5	1.8
Apparel and accessory stores	18.3	4.1
Federal government	3.4	1.4
State and local government	3.5	0.1
Services	4.8	4.1
Hotels and lodging	1.4	3.9
Personal services	2.7	-1.9
FIRE	2.3	1.3
Banking	-1.9	0.5
Insurance	3.8	1.2

Employment in construction will slow its fall, declining only 0.3 percent after falling 7.0 percent in 1988, as interest rates gradually fall during the last three quarters.

The slowdown in the growth of consumer spending in Kansas will be felt in retail trade as employment grows only 1.3 percent compared to 3.6 percent last year. Four of the five retail subsectors, which make up nearly half of retail trade employment, will grow more slowly this year than last year.

Slower growth of real personal income in Kansas will lead to slower growth of employment in finance, insurance, and real estate (FIRE). Due to the effects of the drought, farm employment will decrease 7.5 percent, more than offsetting last year's 1.3 percent increase. The growth of employment in several major sectors of Kansas is illustrated in Figure 5.

As employment growth slows, the Kansas unemployment rate will begin to move upward during the second half of the year, averaging 4.8 percent for the last two quarters after dipping to 4.3 percent in the second quarter.

Kansas personal income will increase 5.8 percent in 1989 compared to 5.5 percent in 1988. But in real terms, personal income will increase 0.7 percent compared to 1.2 percent in last year. Wages and salaries will grow 6.3 percent compared to 6.1 percent last year.

Due to the drought, and especially to the low wheat yield, farm proprietors' income will fall 15 percent. The wheat harvest will be less than two-thirds of last year's in spite of nearly 20 percent more acres planted. Higher wheat prices and crop insurance will only partly offset the loss. Although beef production will be severely affected by the drought because of lack of pond water and higher feed grain prices, there will not be a large effect in 1989 because beef producers will realize income from selling off herds, at the same time that they reduce the level of inputs that they must purchase.

Nonfarm proprietors' income will grow 2.3 percent. Dividends, interest, and rents will grow 9.9 percent, compared to 7.3 percent in 1988, due to higher interest rates. Personal contributions for social insurance will grow 7.5 percent compared to 11.4 percent in 1988, while transfer payments will grow 7.2 percent compared to 5.5 percent in 1988. Figure 6 compares Kansas personal income growth with U.S. personal income growth.

Notes

1. The forecasts for the national economy are produced by the Econometric Model of the United States using assumptions generated at the Institute. The model was developed at the Center for Econometric Model Research at the University of Indiana, R. Jeffery Green and Morton J. Marcus, directors. The Kansas forecasts are produced by the Kansas Econometric Model, a product of the Institute for Public Policy and Business Research.

2. Trade-weighted average of the dollar's exchange rate.

Figure 5
Employment Growth of Some Major Kansas Sectors

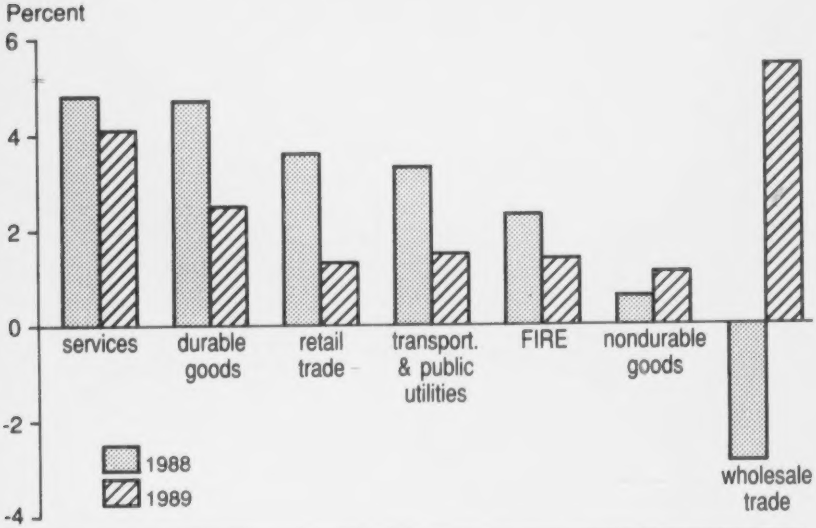
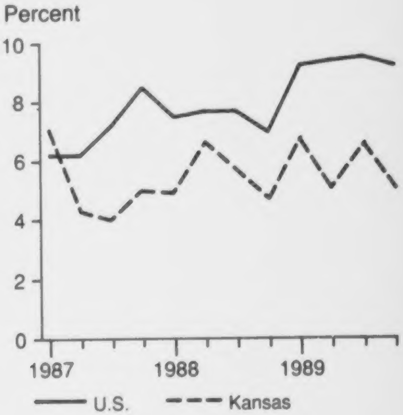
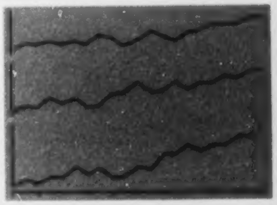


Figure 6
Personal Income Growth



Note: Change of current dollar personal income from the same quarter one year ago. Kansas forecast begins with first quarter, U.S. with second quarter 1989.

Economic Indicators



Kansas Indicators

	Quarter or Month	Current Period	Previous Period	Year Ago	% Change from Previous Period	% Change from Year Ago
New Incorporations For Profit - Number	1st	1131	995	1163	13.67	-2.75
Tax Revenue General Fund - Mil. $	1st	494.05	508.68	479.16	-2.88	3.11
Operating Expenditures General Fund - Mil. $	1st	510.57	512.06	478.37	-0.29	6.73

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3. Organization for Economic Cooperation and Development. Member nations are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Holland, Iceland, Ireland, Italy, Japan, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

National Indicators

	Quarter or Month	Current Period	Previous Period	Year Ago	% Change from Previous Period	% Change from Year Ago
Income Measures, Annual rates						
Gross National Product - Bil. 82$	1st	4076.50	4033.40	3956.10	1.07	3.04
Disposable Personal Income - Bil. 82$	1st	2882.17	2828.43	2762.33	1.90	4.34
Consumption - Bil. 82$	1st	2633.60	2626.20	2559.80	0.28	2.88
Gross Private Investment - Bil. 82$	1st	732.40	717.10	728.90	2.13	0.48
Net Export of Goods and Services - Bil. 82$	1st	-87.80	-105.40	-109.00		
Government Purchases - Bil. 82$	1st	798.30	795.50	776.40	0.35	2.82
Savings Rate - %	1st	5.57	4.37	4.27		
Labor Force						
Civilian Labor Force - Mil.	March	123.26	123.18	120.94	0.06	1.92
Employed - Mil.	March	117.14	116.85	114.13	0.25	2.64
Unemployed - Mil.	March	6.13	6.33	6.81	-3.16	-9.99
Unemployment Rates - percent						
All	March	5.00	5.10	5.60		
Women	March	5.10	5.00	5.60		
Men	March	4.80	5.20	5.70		
Teens	March	13.70	14.80	16.40		
Blacks and other than white	March	9.80	10.60	11.30		
Whites	March	4.20	4.30	4.70		
General Business						
Industrial Production - 1977 = 100	1st	140.57	139.90	134.50	0.48	4.51
Mfg. and Trade Sales - Bil. 82$	4th	1391.30	1371.40	1334.50	1.45	4.26
Mfg. and Trade Inventories - Bil. 82$	4th	2101.27	2078.88	2011.21	1.08	4.48
New Orders, Durable Goods - Bil. 82$	1st	321.53	326.48	302.83	-1.52	6.18
Capacity Utilization, Mfg. %	1st	84.30	84.40	82.70		
New Housing Starts, Private - Tho.	1st	4542.00	4676.00	4430.00	-2.87	2.53
Prices						
Consumer Prices - 1982-1984 = 100						
CPI-U, All Items	March	122.50	121.90	116.70	0.49	4.97
Food	March	123.60	122.60	116.00	0.82	6.55
Housing	March	121.70	121.30	117.20	0.33	3.84
Apparel	March	119.10	117.50	114.10	1.36	4.38
Transportation	March	112.60	111.90	107.20	0.63	5.04
Medical	March	145.90	145.20	136.10	0.48	7.20
Producer Prices - 1982-1984 = 100 (NSA)						
All Commodities	March	111.50	110.80	104.90	0.63	6.29
Industrial Commodities	March	110.60	110.00	104.70	0.55	5.64
Crude Materials	March	103.10	101.00	94.10	2.08	9.56
Capital Equipment	March	117.50	117.40	113.20	0.09	3.80
Agricultural Prices - 1977 = 100						
Prices Received	March	149.00	148.00	130.00	0.68	14.62
Prices Paid	March	175.00	175.00	165.00	0.00	6.06
Monetary and Credit Aggregates**						
Total Reserves	1st	-4.00	-0.70	6.50		
M1	1st	-0.40	2.30	3.80		
Commercial Banks:						
Savings	1st	-3.50	4.10	6.30		
Small Denomination Time	1st	22.70	18.00	13.60		
Large Denomination Time	1st	17.90	13.00	3.30		
Thrift Institutions:						
Savings	1st	-7.60	-2.50	-2.40		
Large Denomination Time	1st	1.20	7.90	13.60		
Debt Components:						
Federal	1st	7.60	7.80	8.00		
Nonfederal	1st	9.40	8.70	8.20		
Interest Rates - Monthly						
Prime Rate - %	March	11.50	10.93	8.50		
Discount Rate - %	March	7.00	6.59	6.00		

Seasonally adjusted; **annual rates of change, seasonally adjusted in percent.

Comparison Indicators*

	Quarter or Month	Current Period	Previous Period	Year Ago	% Change from	
					Previous Period	Year Ago
Personal Income - Annual rates						
Kansas - Mil. $	4th	40555.0	39263.0	38724.0	3.29	4.73
United States - Bil.$	1st	4301.53	4180.50	3951.47	2.90	8.86
Employment						
Kansas - Thou.**	1st	1219.36	1220.25	1208.80	-0.07	0.87
United States - Mil.	1st	116.90	115.84	114.15	0.91	2.41
Unemployment Rate						
Kansas - % **	1st	4.9	4.6	5.1		
United States - %	1st	5.2	5.3	5.7		
Retail Sales - Annual rates						
Kansas - Mil. $**	1st	18454.49	17072.92	16716.70	8.09	10.40
United States - Bil. $	1st	1675.32	1666.24	1584.03	0.54	5.76
Consumer Price Index-U, All items						
Kansas City - 1982-1984 =100	July-Dec.	118.40	116.30	114.60	1.81	3.32
United States - 1982-1984 =100	July-Dec.	119.68	117.02	114.82	2.28	4.24

*Seasonally adjusted; **not seasonally adjusted.

Quarterly Employment in Kansas

	1989 Q1	1988 Q4	1988 Q1	% Change from 1988 Q4	% Change from 1988 Q1
Civilian Labor Force - Tho.	1282.84	1279.11	1273.41	0.29	0.74
Employed - Tho.	1219.36	1220.25	1208.80	-0.07	0.87
Farm Employment - Tho.	47.97	53.97	50.33	-11.12	-4.70
Unemployed - Tho.	63.48	58.86	64.61	7.86	-1.74
Initial Claims for Unemployment Insurance - Tho	15.84	13.50	14.89	17.37	6.42
Average Work Week, Mfg. - Hrs.	40.23	41.10	40.63	-2.11	-0.98
Industry Employment, in thousands					
All Industries	1037.83	1052.40	1012.40	-1.38	2.51
Manufacturing	182.93	182.37	179.43	0.31	1.95
Durable Goods	109.33	109.07	105.80	0.24	3.34
Fabricated Metal Production	11.37	11.47	11.17	-0.87	1.79
Machinery (incl. Elec.)	29.90	29.73	28.53	0.56	4.79
Transportation Equipment	47.77	47.07	46.47	1.49	2.80
Nondurable Goods	73.60	73.30	73.63	0.41	-0.05
Food and Kindred Prod	26.50	26.60	26.63	-0.38	-0.50
Meat Products	14.33	14.37	14.53	-0.23	-1.38
Printing and Publishing	20.30	20.00	20.00	1.50	1.50
Petroleum and Coal	2.97	2.90	2.90	2.30	2.30
Mining	9.60	10.03	10.70	-4.32	-10.28
Oil and Gas Extraction	8.43	8.60	9.40	-1.94	-10.28
Contract Construction	36.70	42.47	36.77	-13.58	-0.18
Transportation and Public Utilities	64.53	65.17	63.07	-0.97	2.33
Wholesale Trade	67.93	67.73	56.70	0.30	19.81
Retail Trade	189.03	195.47	186.17	-3.29	1.54
Finance, Insurance, and Real Estate	57.70	58.30	57.10	-1.03	1.05
Services	216.57	216.50	206.67	0.03	4.79
Federal Government	29.83	29.43	28.73	1.36	3.83
State and Local Government	183.00	184.93	177.07	-1.05	3.35

Quarterly Personal Income in Kansas*

	1988:Q4	1988:Q3	1988:Q4	% Change from 1988:Q3	% Change from 1987:Q4
Total Personal Income - Mil $	40555	39263	38724	3.29	4.73
Nonfarm Income - Mil $	38793	38089	36758	1.85	5.54
Farm Income - Mil $	1763	1175	1966	50.04	-10.33
Average Weekly Earnings, Mfg. - $**	427	415	410	2.96	4.11
Earnings by Industry - Mil $					
Nonfarm	26471	26060	25180	1.58	5.13
Farm	1763	1175	1966	50.04	-10.33
Manufacturing	5317	5212	5202	2.01	2.21
Durable Goods	3356	3283	3287	2.22	2.10
Nondurable Goods	1961	1929	1915	1.66	2.40
Mining	290	304	331	-4.61	-12.39
Contract Construction	1529	1543	1653	-0.91	-7.50
Trans and Public Utilities	2357	2338	2207	0.81	6.80
Wholesale Trade	1951	1917	1837	1.77	6.21
Retail Trade	2723	2675	2480	1.79	9.80
Finance, Ins., and Real Estate	1613	1564	1510	3.13	6.82
Services	5941	5767	5392	3.02	10.18
Federal Government	800	785	759	1.91	5.40
State and Local Government	714	715	686	-0.14	4.08

*Seasonally adjusted, at annual rates; **not seasonally adjusted.

Quarterly Kansas Retail Sales (in millions of dollars)

	1989:Q1	1988:Q4	1988:Q1	% Change from 1988:Q4	% Change from 1988:Q1
Apparel	535.47	462.32	512.11	15.82	4.56
Automotive	2988.39	3133.15	2883.06	-4.62	3.65
Food	4374.95	4038.87	3927.49	8.32	11.39
Furniture	942.62	1379.19	916.96	-31.65	2.80
General Merchandise	3378.92	2457.22	3070.12	37.51	10.06
Lumber and Building Materials	1182.52	1293.38	1096.79	-8.57	7.82
Prof. and Pers. Service	1178.30	1035.50	915.38	13.79	28.72
Public Utilities	779.03	827.52	884.37	-5.86	-11.91
Unclassified	1531.55	1408.64	1568.45	8.73	-2.35
Farm and Garden Products	29.46	25.44	19.64	15.82	49.99
Manufacturing and Trading	906.80	1001.93	908.35	-9.50	-0.17
Miscellaneous	55.92	45.01	93.34	24.25	-40.09
Total	17854.49	17072.92	16716.70	4.58	6.81

Note: Figures are at annual rates. Retail sales figures are based on sales tax collections. Actual and reported retail sales may vary.

Monthly Kansas Agricultural Indicators*

				% Change from	
Prices Received	1989 March	1989 February	1988 March	1989 Feb.	1988 March
All Farm Products -1977 =100	181.00	182.00	160.00	-0.55	13.13
All Crops -1977 =100	167.00	162.00	118.00	3.09	41.53
Wheat - $/Bu.	4.13	3.94	2.77	4.82	49.10
Sorghum Grain - $/Bu.	4.02	3.89	2.88	3.34	39.58
Corn - $/Bu.	2.61	2.56	1.97	1.95	32.49
Soybeans - $/Bu.	7.45	7.24	6.02	2.90	23.75
All Hay - $/Ton	91.00	94.00	62.00	-3.19	46.77
Livestock and Products -1977 =100	190.00	195.00	186.00	-2.56	2.15
All Beef Cattle - $/Cwt.	73.70	75.50	71.60	-2.38	2.93
Steers and Heifers - $/Cwt.	75.10	76.90	73.00	-2.34	2.88
Calves - $/Cwt.	96.00	95.10	94.20	0.95	1.91
Hogs - $/Cwt.	38.30	39.40	41.30	-2.79	-7.26
Milk - $/Cwt.	12.70	13.10	11.08	-3.05	7.63

* Not seasonally adjusted.

Quarterly Employment and Sales for SMSAs and Counties

				% Change from	
	1989:Q1	1988:Q4	1988:Q1	1988:Q4	1989:Q1
Wichita SMSA: Civilian Labor Force - Tho.	259.02	256.75	253.15	0.88	2.32
Employed - Tho.	246.74	244.91	239.87	0.75	2.87
Unemployed - Tho.	12.28	11.84	13.29	3.67	-7.58
Rate - %	4.73	4.63	5.23		
Retail Sales - Mil. $	941.40	884.80	866.60	6.40	8.63
Kansas Portion of Kansas City SMSA					
Civilian Labor Force - Tho.	330.20	326.34	328.90	1.18	0.39
Employed - Tho.	313.78	311.26	313.09	0.81	0.22
Unemployed - Tho.	16.43	15.08	15.82	8.90	3.84
Rate - %	4.97	4.63	4.80		
Retail Sales - Mil. $	1063.81	1020.20	998.08	4.27	6.59
Topeka SMSA					
Civilian Labor Force - Tho.	93.33	91.74	92.41	1.74	0.99
Employed - Tho.	88.71	87.31	87.87	1.60	0.96
Unemployed - Tho.	4.62	4.42	4.55	4.34	1.47
Rate - %	4.93	4.80	4.90		
Retail Sales - Mil. $	324.17	307.73	298.31	5.34	8.67
Lawrence SMSA					
Civilian Labor Force - Tho.	41.73	41.67	41.06	0.15	1.63
Employed - Tho.	40.11	40.20	39.46	-0.22	1.63
Unemployed - Tho.	1.63	1.48	1.60	10.28	1.77
Rate - %	3.90	3.57	3.90		
Retail Sales - Mil. $	114.58	113.96	105.12	0.54	9.00
Riley County--Manhattan Area					
Civilian Labor Force - Tho.	28.75	28.79	28.67	-0.14	0.26
Employed - Tho.	27.70	27.64	27.54	0.20	0.57
Unemployed - Tho.	1.05	1.15	1.13	-8.51	-7.24
Rate - %	3.63	4.00	3.93		
Retail Sales - Mil. $	63.09	59.33	59.17	6.35	6.63
Reno County--Hutchinson Area					
Civilian Labor Force - Tho.	30.90	30.82	30.96	0.26	-0.19
Employed - Tho.	29.14	29.23	29.16	-0.31	-0.08
Unemployed - Tho.	1.76	1.59	1.80	10.65	-1.98
Rate - %	5.73	5.17	5.80		
Retail Sales - Mil. $	104.76	99.51	96.28	5.28	8.81
Crawford County--Pittsburg Area					
Civilian Labor Force - Tho.	16.79	16.90	17.28	-0.65	-2.83
Employed - Tho.	15.77	16.00	16.16	-1.40	-2.41
Unemployed - Tho.	1.01	0.90	1.11	12.58	-8.95
Rate - %	6.03	5.33	6.43		
Retail Sales - Mil. $	44.60	42.98	43.66	3.78	2.16
Lyon County--Emporia Area					
Civilian Labor Force - Tho.	19.88	19.76	19.51	0.59	1.87
Employed - Tho.	18.76	18.80	18.51	-0.25	1.32
Unemployed - Tho.	1.12	0.96	1.00	16.97	12.18
Rate - %	5.67	4.87	5.10		
Retail Sales - Mil. $	50.36	49.82	49.31	1.10	2.13
Saline County--Salina Area					
Civilian Labor Force - Tho.	27.77	27.72	27.50	0.16	0.96
Employed - Tho.	26.25	26.34	25.96	-0.35	1.11
Unemployed - Tho.	1.52	1.38	1.55	9.94	-1.51
Rate - %	5.50	4.97	5.60		
Retail Sales - Mil. $	104.02	99.23	95.67	4.83	8.74
Barton County--Great Bend Area					
Civilian Labor Force - Tho.	14.49	14.67	14.64	-1.22	-1.00
Employed - Tho.	13.73	13.88	13.78	-1.05	-0.35
Unemployed - Tho.	0.76	0.79	0.86	-4.11	-11.40
Rate - %	5.27	5.40	5.87		
Retail Sales - Mil. $	57.99	55.03	57.06	5.39	1.64
Montgomery County--Coffeyville Area					
Civilian Labor Force - Tho.	17.94	17.83	18.05	0.59	-0.63
Employed - Tho.	16.88	16.82	16.87	0.34	0.03
Unemployed - Tho.	1.06	1.01	1.18	4.61	-10.08
Rate - %	5.93	5.67	6.53		
Retail Sales - Mil. $	52.79	46.32	50.75	13.96	4.00

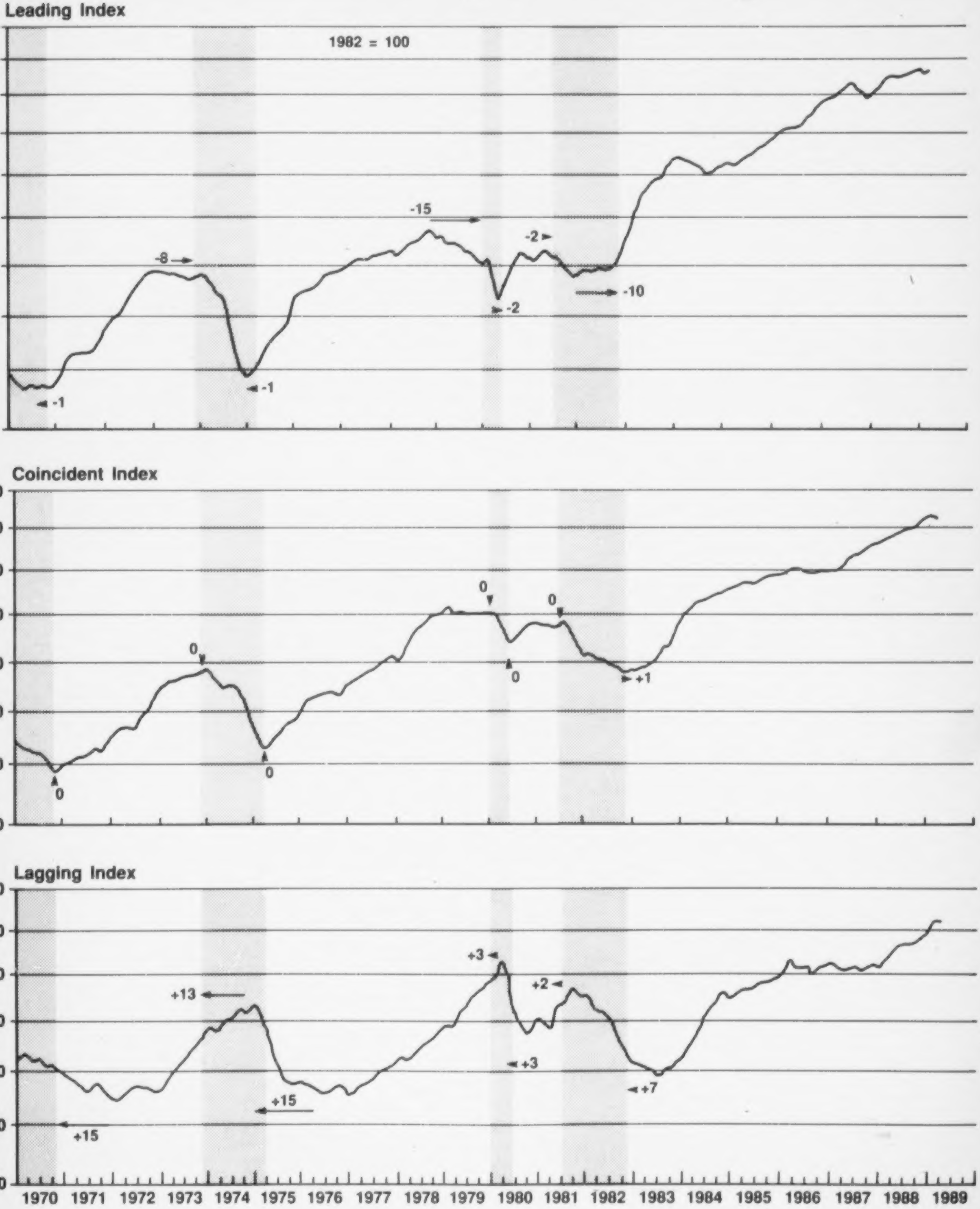
Quarterly Banking and Savings and Loan Activity in Kansas

	1989 Q1	1988 Q4	1988 Q1	% Change from 1988 Q4	% Change from 1988 Q1
Federal Reserve Member Banks					
Kansas, in Millions					
Total Deposits	37889.3	37383.7	36682.2	1.35	3.29
Total Checkable	6277.0	6246.7	6240.5	0.49	0.58
Demand Deposits	3040.7	3072.7	3094.6	-1.04	-1.74
Other Checkable	3236.3	3174.0	3137.0	1.96	3.17
Small Time and Savings	25101.0	24943.3	24140.9	0.63	3.98
Large Time	6511.3	6193.7	6299.3	5.13	3.37
Kansas City, KS, in Millions					
Total Loans	1762.32	1767.76	1736.05	-0.31	1.51
Real Estate	950.86	937.80	885.03	1.39	7.44
Commercial and Industrial	533.82	542.22	539.01	-1.55	-0.96
Consumer	100.82	96.00	100.43	5.03	0.39
Total Deposits	2040.86	1985.34	1907.07	2.80	7.02
Demand Deposits	219.81	230.04	228.93	-4.45	-3.98
Time and Savings	1163.18	1135.48	1053.17	2.44	10.45
Topeka, in Millions					
Total Loans	387.41	375.62	345.91	3.14	12.00
Real Estate	122.71	112.96	105.79	8.63	16.00
Commercial and Industrial	140.74	141.18	124.03	-0.31	13.47
Consumer	70.62	73.00	64.40	-3.26	9.66
Total Deposits	535.89	519.92	534.49	3.07	0.26
Demand Deposits	165.43	160.09	174.80	3.33	-5.36
Time and Savings	234.74	222.39	228.52	5.55	2.72
Wichita, in Millions					
Total Loans	1367.63	1376.32	1265.98	-0.63	8.03
Real Estate	296.05	277.83	258.37	6.56	14.58
Commercial and Industrial	494.12	507.47	473.76	-2.63	4.30
Consumer	414.04	435.98	374.69	-5.03	10.50
Total Deposits	1983.80	1960.32	1917.93	1.20	3.43
Demand Deposits	463.53	465.02	458.87	-0.32	1.01
Time and Savings	1047.67	996.93	966.50	5.09	8.40
Savings and Loan Activity					
Kansas, in Millions					
Total Assets	22859.27	22646.23	22206.40	0.94	2.94
Mortgage Loans	14668.77	14560.93	15517.97	0.74	-5.47
Kansas City, KS, in Millions					
Total Assets	2466.97	2494.37	2465.07	-1.10	0.08
Mortgage Loans	1940.87	1940.73	1942.27	0.01	-0.07
Topeka, in Millions					
Total Assets	3418.83	3405.07	3110.47	0.40	9.91
Mortgage Loans	2967.40	2957.13	2680.97	0.35	10.68
Wichita, in Millions					
Total Assets	1872.17	1909.87	1765.23	-1.97	6.06
Mortgage Loans	1320.73	1335.67	1277.80	-1.12	3.36

* The data for banks above pertain only to Federal Reserve member banks of Kansas and do not represent all commercial banking in the state. Since 1980, These data have covered approximately 50 percent of the state's banking activity.

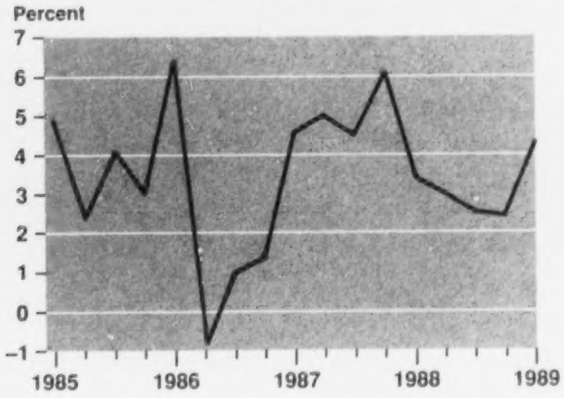
Sources: Employment data, the BLS and the Kansas Department of Human Resources; personal income data, the Bureau of Economic Analysis; banking data, the Federal Reserve Bank of Kansas City; savings and loan data, the Federal Home Loan Bank of Topeka; agricultural prices, Kansas Crop and Livestock Reporting Service; retail sales, Kansas Department of Revenue; business indicators, the *Survey of Current Business;* interest rates, the *Federal Reserve Bulletin;* Kansas new incorporations, Kansas Secretary of State; Kansas general fund revenues and expenditures, Kansas Department of Administration.

U.S. Composite Indexes

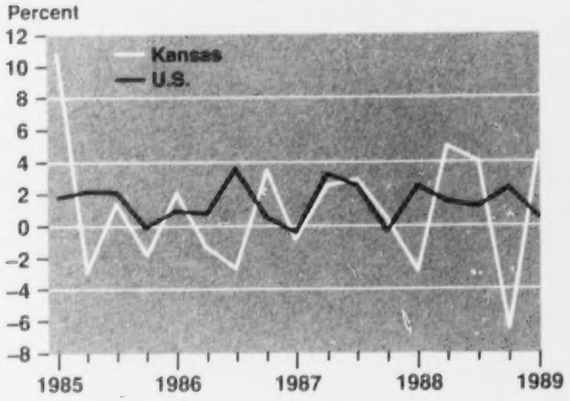


Source: Bureau of Economic Analysis, *Business Conditions Digest.*

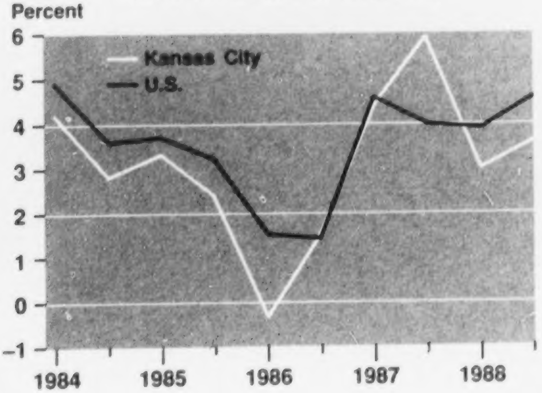
Note: Numbers entered on the chart indicate length of leads (—) and lags (+) in months from reference turning dates. Shading indicates periods or recession.



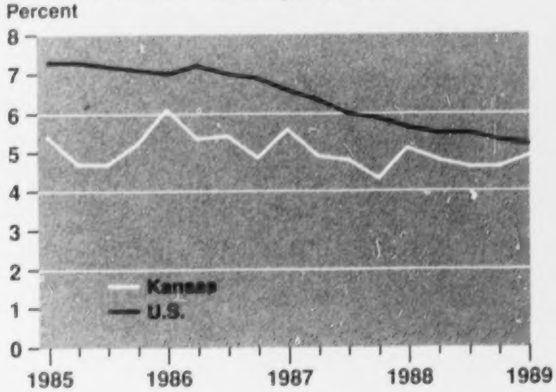
Average Annual Growth Rate of GNP
(1982 Dollars)



Growth of Retail Sales
(In Current Dollars)



Rate of Inflation
(CPI-U, Seasonally Adjusted)



Civilian Unemployment Rate

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